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Statewide Analysis of Selected Health Risk Factors

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Montana
Behavioral
Risk Factor
Surveillance
BRFSS 1992

Montana Department of Health and Environmental Sciences
Behavioral Risk Factor Surveillance System
Chronic Disease Prevention and Health Promotion Program
Room C-317, Cogswell Building
Helena, MT 59620
(406) 444-2640

What's Your Opinion?

Please take a moment to complete the card below and drop it in the mail or fax it to DHES at 444-2606. It's a quick, convenient way to help make the BRFSS Program work better for you. Your evaluation -- criticisms as well as praise -- will be used when next year's BRFSS Annual Report is prepared. What is more, if you help us now, next year we will automatically send you a copy of the Annual Report when it is released.

BRFSS Annual Report Evaluation Survey

1. a. How would you rank the way in which information in the Annual Report is organized?
Is the report: ☐ very easy to use, ☐ easy to use, ☐ neither easy nor difficult to use, ☐ difficult to use, ☐ nearly impossible to use.

1. b. How could the way information is organized be improved? __________

2. a. Do you think next year's BRFSS Annual Report should include:
☐ the same risk factors as this year, ☐ additional risk factors, ☐ fewer risk factors, ☐ different risk factors.

2. b. Please list any risk factors you would add: __________

2. c. Please list any risk factors you would eliminate: __________

3. a. How would you rank the way in which data is presented in the Annual Report? Do tables and figures make data:
☐ much easier to understand, ☐ easier to understand, ☐ neither easier nor more difficult to understand,
☐ more difficult to understand, ☐ very difficult to understand.

3. b. How would you improve the presentation of data in next year's BRFSS Annual Report? __________

4. a. Each section of the Annual Report begins with a brief overview of the behavioral risk factor to be covered in that section. In general, how would you rank the overviews in this edition of the report as to the amount of information they provide? Do they provide:
☐ much more information than necessary, ☐ generally more information than necessary, ☐ about the right amount of information,
☐ less than an adequate amount of information, ☐ far too little information.

4. b. What kinds of information would you ☐ add ☐ eliminate: __________

5. a. How would you rank the data evaluation narratives provided in the Annual Report as to their usefulness? Are they
☐ very useful, ☐ quite useful, ☐ adequately useful, ☐ not very useful, ☐ basically useless.

5. b. In what way could the analysis of data provided in next year's Annual Report be improved? __________

6. Do you have any other comments about this BRFSS Annual Report and/or about how next year's Annual Report could be improved?

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Health and Human Services
Chronic Disease Prevention and
Health Promotion Program
Room C-317, Cogswell Building
Helena, MT 59620

From the Director

The Montana Department of Health and Environmental Sciences is pleased to present this Annual Report of selected findings based on our 1992 Montana Behavioral Risk Factor Surveillance System (BRFSS) survey. This fifth report continues the delivery of risk factor information augmenting facts published in our 1982, 1984-1988, 1990 and 1991 reports.

The BRFSS involves a statewide telephone survey of 1,188 adult residents, age 18 and older. Montana is one of 49 states funded and supported by the Centers for Disease Control to administer monthly telephone interviews to gather health-related data.

The project represents an on-going surveillance of key risk factors to assess baseline data for identifying and targeting future health trends in Montana. The information serves as a valuable guide in planning health promotion and disease prevention activities and can assist health professionals in the public and private sectors in identifying populations at risk.

It is our hope that this Annual Report will serve as a resource for you and others, helping Montanans make concerted and informed efforts to face the health challenges of Montana's citizens for the 1990s and beyond.

Sincerely,
Robert J. Robinson
Robert J. Robinson

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August, 1993
Funded in part by:
The Centers for Disease Control
Cooperative Agreement #U 58/CCU 800588-11
Preventive Health and Health Services
Block Grant #93-B1-MT-PRVS-04

Acknowledgements

Special appreciation is extended to the interviewers (Lois Ennis, Kathy Moots, Bonnie Naethe, and Joyce Benz) who have committed themselves over the past several years to collecting BRFSS data in an accurate and professional manner. Data collection is the heart of the BRFSS Project and, without their interviewing expertise, this Annual Report would not have been possible.

Our sincere thanks is also extended to Mr. Galen McKibben. Those of us who work with statistical data on a regular basis, conveying the meaning of countless numbers, appreciate his abilities in converting numbers into graphs and tables. Mr. McKibben's expertise has played an important role in obtaining the goal of a readable and usable BRFSS Annual Report for 1992.

Executive Summary

Background

The Montana Department of Health and Environmental Sciences (DHES) entered into a cooperative agreement with the National Centers for Disease Control and Prevention (CDC) in 1983 to assess health-related behavioral risk factors among adult Montanans. In each of the nine years since the Behavioral Risk Factor Surveillance System (BRFSS) was initiated in Montana, a statewide telephone survey has been conducted each month to monitor the health habits of Montanans. Each year, a total of 1,188 adult Montanans are asked a series of health-related questions. The responses are tabulated and statistical indicators concerning health habits in Montana are provided to DHES personnel. The information is then provided to a variety of agencies and organizations concerned with issues of health and safety in Montana.

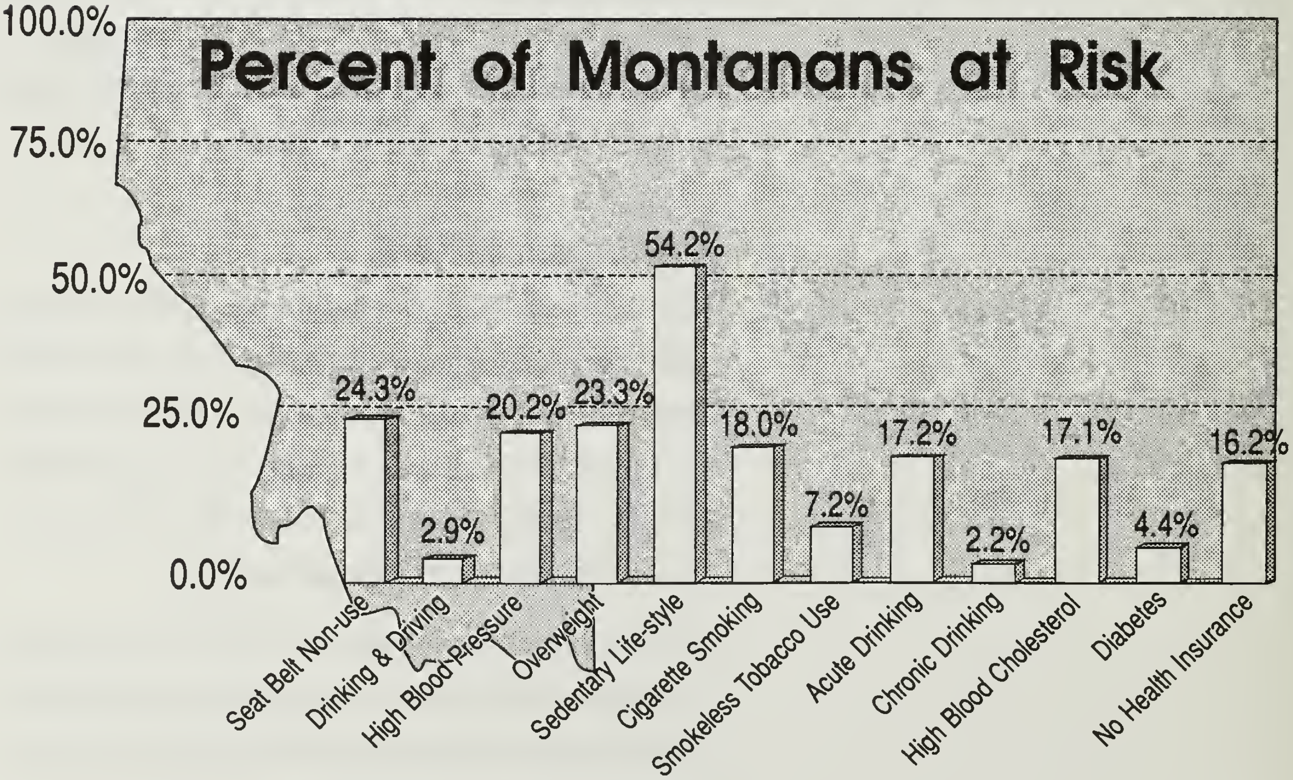
Findings for 1992

With the exception of two health risk areas, Montanans seem to be adopting generally healthier life-styles. Use of safety belts is up. Tobacco use is down. Alcohol consumption seems to be declining. A greater percentage of Montanans are getting their blood cholesterol levels checked. More women are receiving mammograms.

While 1992 realized an upsurge in the percent of people reporting hypertension, it seems plausible to assume some of that increase resulted from more people having their blood pressure checked regularly.

A second health status indicator on the rise is a result of Montanans at risk from being overweight. The prevalence of overweight has steadily increased over the past BRFSS interviewing period from a low of 14.5 percent in 1988 to a current 23.3 percent in 1992. This trend has been accompanied by an increasing prevalence of sedentary life-styles.

The unexpected rise in smoking reported last year (from 19 percent in 1990 to 21 percent in 1991) seems to have been part of a national slowdown in the trend away from cigarette smoking. In 1992, Montana resumed a decline in the smoking rate to 18 percent down from 21 percent as reported in 1991, representing a continued, albeit slow, decline from nearly 20 percent in 1988.



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Introduction

Scientific evidence continues to mount indicating that human health significantly improves when life-styles and behaviors are adopted which lower the risk of developing illnesses such as heart disease and cancer, and reduce the risk of accidental injury. Persons whose life-styles include moderate physical activity, healthy diet, and regular health screenings, while excluding smoking and excessive alcohol consumption, tend to live longer and more healthful lives. Persons with healthy life-styles also often report heightened feelings of well-being and greater satisfaction with their lives in general.

In 1982, the National Centers for Disease Control (CDC) funded eight states and the District of Columbia to conduct prevalence surveys of major behavioral risk factors* among the adult populations of those states. The following year, the Montana Department of Health and Environmental Sciences (DHES) entered into a cooperative agreement with CDC to begin assessing the status of health and behavioral risk factors of adult Montanans through a statewide telephone survey (i.e., the Behavioral Risk Factor Surveillance System (BRFSS)). By 1992, the number of states conducting BRFSS surveys had grown to 49 states including the District of Columbia.

BRFSS was developed to collect data on behavioral risk factors considered highly important in contributing to the leading causes of death and disability in the United States. The major causes of death in Montana are listed in Table

---

*Behaviors that are associated with an increased hazard of developing avoidable illness and/or premature death.

1 with associated risk factors. The 1992 BRFSS survey included questions concerning seat belt usage, hypertension, physical activity, weight control, tobacco use (including smokeless tobacco), alcohol consumption, preventive health practices, health insurance, women's health issues, Acquired Immune Deficiency Syndrome (AIDS), and injury control including child safety.

Table 1
TEN LEADING CAUSES OF DEATH IN MONTANA
with Associated Behavioral Risk Factors 1991

Cause of Death	% Total Deaths	Associated Risk Factors
Heart Disease	27.8%	Smoking, sedentary life-style, overweight, hypertension, high blood cholesterol
Cancer	23.7%	Smoking, high fat diet, chronic drinking, environment
Stroke	7.2%	Hypertension, smoking, high blood cholesterol
Chronic Obstructive Pulmonary Disease	6.2%	Smoking
Unintentional Injuries	5.5%	Acute & chronic drinking, smoking, safety belt non-use
Pneumonia & Influenza	3.6%	Smoking
Diabetes	2.6%	Overweight
Suicide	2.4%	Acute & chronic drinking
Arteriosclerosis	1.6%	High blood cholesterol
Chronic Liver Disease/Cirrhosis	1.0%	Chronic drinking

Total Deaths (1991) = 6,995

In 1991, the ten leading causes of death in Montana accounted for approximately 80% of all deaths.

Source: Montana Department of Health & Environmental Sciences, Vital Records & Statistics Bureau, September 1992, Helena Montana.

This report focuses on nine primary risk areas:

1. Tobacco Use
2. Automobile Safety including Seat Belt Non-use and Drinking and Driving
3. Hypertension
4. Sedentary Life-style
5. Alcohol Abuse
6. Overweight
7. High Blood Cholesterol
8. Lack of Mammogram Screening
9. Lack of Pap Tests

These nine risk areas are closely associated with the 10 leading causes of death (see Table 1). Information on other aspects of the survey is available from Mr. Robert Moon, BRFSS Program Supervisor, Montana Department of Health and Environmental Sciences, Helena, Montana.

Where appropriate, BRFSS Montana data are compared with national health promotion and disease prevention objectives presented in "Healthy People 2000 - National Health Promotion and Disease Prevention Objectives" (U.S. Department of Health and Human Services, Public Health Service, September 1990). This Public Health Service document represents a national effort involving 22 expert working groups, a consortium of almost 300 national organizations and health departments in all states, the Institute of Medicine of the National Academy of Sciences, and public review and comment from more than 10,000 individuals. "Healthy People 2000" challenges communities to translate national objectives into state and local action.

Goals and Objectives

State health departments, in partnership with a variety of public and private programs, are responsible for planning, implementing, and evaluating disease prevention programs. Many state health department programs promote health risk behavior management such as increased seat belt usage, decreased drinking and driving, smoking cessation, increased physical activity, and proper nutrition. One valuable method of assessing the effectiveness of health promotion programs is to monitor the prevalence of risk factors in the population. CDC developed BRFSS for use by states as a primary tool for assessing and monitoring health risk trends.

The goal of BRFSS is to provide valid data to assist in developing and guiding health promotion and disease prevention programs. To achieve that goal, the following objectives were established by CDC:

☐ Determine prevalence of personal health behaviors associated with leading causes of premature death.

☐ Increase public awareness of life-styles which can significantly influence health and well-being.

☐ Monitor behavioral risk factors over time and focus on factors that are not improving.

☐ Assess progress in meeting the national health objectives for health promotion and disease prevention.

☐ Assess the impact of state legislation on behavioral risks.

☐ Share BRFSS data with state and local agencies involved with health-related issues.

The Montana DHES accepted the challenge to meet the objectives of the BRFSS in its ongoing efforts to reduce the risk of preventable morbidity, mortality, and disability. To ensure that the goals and objectives of the effort are met, the citizens of Montana and health professionals must work together to accurately assess the status of health risk behaviors and to develop and implement strategies to change unhealthy behaviors.

Questionnaire Design

CDC and state BRFSS representatives evaluate and revise the BRFSS survey annually. However, some issues covered in the survey have remained consistent since the onset of BRFSS. The survey instrument contains three primary sections: the core questionnaire, a set of optional CDC standard questions (modules), and state-specific questions. Inclusion of state-specific questions and selected standard CDC modules began in 1983 and 1988, respectively.

The core questionnaire consists of a standard series of questions asked by interviewers in all BRFSS participating states. In addition to questions concerning health-related behaviors, respondents are asked to provide demographic information such as age, gender, race, marital status, household income, employment status, and education level.

Standard CDC modules are included at the end of the core questionnaire. Since 1988, a variety of topics have been available to participating states. Montana has chosen to include questions concerning smokeless tobacco, dietary fat, radon gas, and AIDS knowledge and awareness in the current and past surveys.

State-specific questions were developed by the Highway Traffic Safety Division of the Montana Department of

Justice and have been included in the survey since 1983. The questions are designed to determine Montanans' attitudes toward driving under the influence (DUI), laws pertaining to DUI, and traffic safety.

Sampling Process

A CDC-modified version of the "Waksberg Random Digit, Three State Cluster Design" was used to generate a sample size of 1,188 from Montana households with telephones. In the first stage, a list of telephone numbers was randomly generated based on the population distribution within three-digit prefixes in Montana. The second stage involved the "screening" of 33 primary telephone numbers prior to the interviewing session. If the primary numbers were residential, working numbers, they were accepted as primary sampling units (PSU) or clusters. Each PSU consisted of three telephone numbers (the primary telephone number and two numbers with different last two digits of the suffix), thus resulting in a monthly sample of 99 randomly selected telephone numbers. In the final stage, one adult 18 years of age or older per household was selected to participate in the survey. One respondent per household was randomly selected by means of computer-generated numbers.

Interview Process

DHES contracted with Northwest Resource Consultants of Helena, Montana, to conduct the interviews using a computer-assisted telephone interviewing (CATI) system. Interviews commenced on or after the second Wednesday of each month and continued until 99 interviews were completed. Interviews were conducted during daytime and evening hours on Monday through Friday, and during daytime hours on weekends to ensure that selected individuals within the sample had the opportunity to participate in the survey. Approximately 20 telephone calls were placed at different times of the day and evening on weekdays and weekends before a sample number was considered a "no answer."

CDC procedures were used to conduct interviews as well as to replace telephone numbers that did not result in completed interviews. If a selected respondent were not available, an appointment was made to complete the interview at a time acceptable to the respondent. If a selected respondent were not available during the interview period or refused to participate, no other member of that household was interviewed. Following a refusal, a telephone number within the PSU was randomly generated and the interview process re-initiated with a new telephone number.

When interviews with 99 respondents were completed, a routine of computer programs was used to summarize data. Diskettes were submitted to CDC in Atlanta, where CDC staff then edited, corrected, and compiled state data into a yearly file, made available to participating states.

Survey Limitations

Surveys that require self-reporting of data have limitations and should be interpreted with caution. Respondents may have the tendency to under-report behaviors that are socially undesirable, unhealthy, or illegal (high alcohol consumption, smoking, drinking and driving, or seat belt non-usage) and over-report behaviors which are socially desirable (amount of exercise, low body weight, or regular health screenings). The accuracy of self-reported information also is affected by the ability of respondents to fully recall past behavior or health screening results.

Telephone surveys exclude households without telephones, which may result in a biased survey population due to under-representation of certain segments of the population. An estimated 97 percent of Montana households have at least one residential telephone (US West; Ed Smith, Pers. Comm., August 13, 1991). The 3 percent of the homes without telephones may represent a population segment at high risk of preventable diseases associated with low socioeconomic status.

Sample Demographic Characteristics

Table 2 compares the 1992 BRFSS sample distribution with available 1990 census data. Sample percents are weighted for sample and population estimate differences in gender and age. As the table indicates, sample distribution for gender and age is nearly identical with 1990 census figures.

Sample distribution of race is a different matter, however. The population of non-white individuals is under-represented in the BRFSS sample. This difference probably stems from several factors. Native Americans represented a much larger percent of Montana's population in the 1990 census than in previous counts, for example. The sampling procedures make no special effort to reach populations among which telephone lines per capita is lower than the norm.

With respect to marital status, the tendency of BRFSS to oversample married individuals and undersample those who have never been married or are divorced continues. Most of the difference is due to the fact that the census data are applicable to all persons in Montana 15 years old and older, while BRFSS sample data are collected from persons 18 years old and over. Census data for marital status of those persons 18 years old and over are not available.

Table 2
DEMOGRAPHIC CHARACTERISTICS SUMMARY

Characteristic	1992 BRFSS Data Raw Data	 Weighted Percent	1990 Census Data Number	 Percent
Age				
18 to 24 Years	118	12.2%	70,011	12.1%
25 to 34 Years	226	21.4%	123,070	21.3%
35 to 44 Years	300	22.0%	126,756	22.0%
45 to 54 years	169	14.2%	82,306	14.3%
55 to 64 Years	135	11.8%	68,321	11.8%
65 Years & Over	240	18.4%	106,497	18.5%
Gender *(18+ Years Old)*				
Male	515	48.8%	281,481	48.8%
Female	673	51.2%	295,480	51.2%
Race *(18+ Years Old)*				
White	1,140	95.8%	542,595	94.0%
Non-White	48	4.2%	34,366	6.0%
Marital Status				
Married	708	68.1%	365,708	59.8%
Divorced	149	8.7%	56,907	9.3%
Widowed	127	6.9%	44,216	7.2%
Separated	26	1.4%	8,132	1.3%
Never Married	158	13.1%	136,569	22.3%
Unmarried Couple	19	1.8%	N/A	N/A

Automobile Safety

Overview

Motor vehicle accidents are the leading cause of death among the United States population age 35 years and under. Many factors contributed to that fact. Increasing speed limits contributed some. Safety features built into vehicles sold in the U.S. have also had an effect, of course. Attitudes and maturity have perhaps more influence than any other factor. Among all contributing factors, the two addressed in the BRFSS survey are use of seat belts and drinking and driving.

Seat Belt Non-Use

Question: *How often do you use seat belts when you drive or ride in a car?*

The National Highway Traffic Safety Administration reports that using a lap-shoulder safety belt reduces a person's chance of serious injury or death by an estimated 50 percent. Use of just the lap belt reduces the risk by 35 percent. In 1992, of the fatalities from motor vehicle accidents in Montana where the status of seat-belt use was determinable, more than 82 percent of those who died were not wearing a seat belt at the time of the accident. Clearly, significant increases in the use of safety belts will result in significant decreases in serious injury and death from traffic accidents. State and national education programs, plus the buckle-up law in Montana have contributed to increased use of safety belts in the state. The mandatory seat belt law was enacted in late 1987. Seat belt usage quadrupled from an estimated 14 percent prior to the law to 56 percent in early 1988.

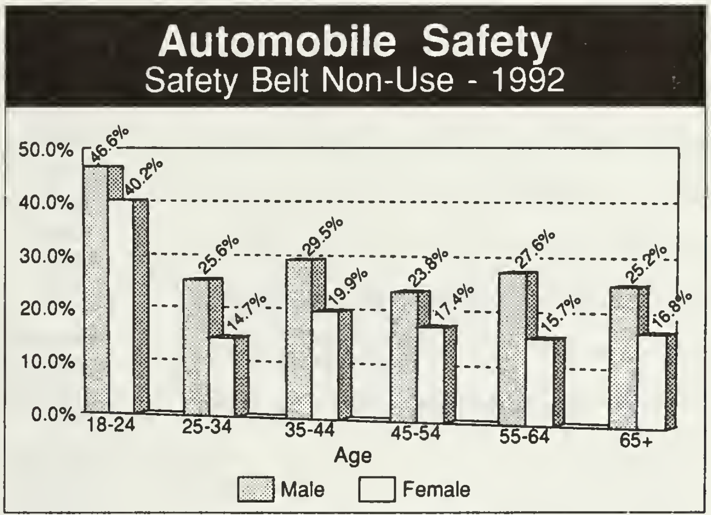

Figure 1

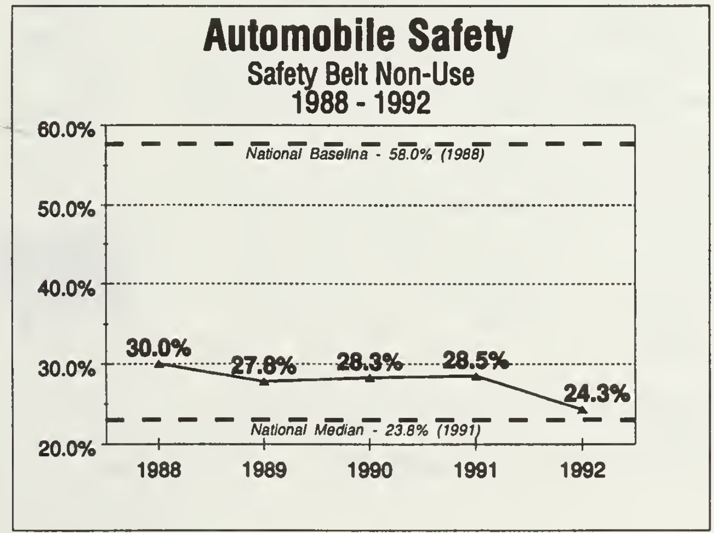

Figure 2

Seat belt non-usage has steadily decreased among Montanans from 30 percent in 1988 to 24.3 percent in 1992. Non-usage is based on the indication that respondents "sometimes," "seldom," or "never" used seat belts when driving or riding in a motor vehicle. Indications of non-usage were higher among younger people than the more mature and higher among males than females. An 18- to 24-year-old male was nearly three times more likely to say he sometimes, seldom, or never wears a safety belt than a 55- to 64-year-old female. In general, safety belt usage increases with age: 25- to 34-year-olds are twice as likely to indicate they use safety belts than 18- to 24-year-olds and more likely to do so than any other age group beyond 34.

Automatic occupant protection systems (e.g., passive seat belts) have been required by federal law for all passenger vehicles since 1990. While there are no specific indicators that built-in automatic protection significantly influenced answers to the question of how often seat belts are used, some impact seems likely. Continued enforcement of Montana's buckle-up law and traffic safety education programs will be required to continue a decline in non-use of seat belts.

Table 3
Percent of Population at Risk for Non-use of Seat Belt - 1992

	YES		*NO*		*UNKNOWN*		*TOTAL*	
	N	*%*	*N*	*%*	*N*	*%*	*N*	*%*
SEX								
MALE	149	29.1	366	70.9	0	0	515	100.0
FEMALE	128	19.7	544	80.2	1	0.1	673	100.0
AGE GROUP								
18-24	49	43.4	69	56.6	0	0	118	100.0
25-34	43	20.1	183	79.9	0	0	226	100.0
35-44	71	24.7	228	75.1	1	0.2	300	100.0
45-54	33	20.7	136	79.3	0	0	169	100.0
55-64	30	21.5	105	78.5	0	0	135	100.0
65 +	51	20.4	189	79.6	0	0	240	100.0
TOTAL	277	24.3	910	75.7	1	0.0	1188	100.0
INCOME								
<$10,000	48	26.7	130	73.3	0	0	178	100.0
$10-$14,999	39	25.0	127	74.7	1	0.3	167	100.0
$15-$19,999	33	23.8	119	76.2	0	0	152	100.0
$20-$24,999	20	20.1	78	79.9	0	0	98	100.0
$25-$34,999	53	29.1	141	70.9	0	0	194	100.0
$35-$50,000	34	21.0	138	79.0	0	0	172	100.0
>$50,000	28	22.9	99	77.1	0	0	127	100.0
UNK/REF	22	22.5	78	77.5	0	0	100	100.0
TOTAL	277	24.3	910	75.7	1	0.0	1188	100.0
EDUCATION								
<9TH GRADE	21	30.7	48	69.3	0	0	69	100.0
SOME HIGH SCHOOL	27	31.1	62	68.9	0	0	89	100.0
HIGH SCHOOL GRADUATE	128	31.9	288	68.0	1	0.1	417	100.0
SOME TECH SCHOOL	6	31.3	15	68.7	0	0	21	100.0
TECH SCHOOL GRADUATE	8	14.6	35	85.4	0	0	43	100.0
SOME COLLEGE	58	22.9	218	77.1	0	0	276	100.0
COLLEGE GRADUATE	18	9.1	158	90.9	0	0	177	100.0
POST GRADUATE	11	9.8	84	90.2	0	0	95	100.0
UNK/REF	0	0	1	100.0	0	0	1	100.0

HEALTHY PEOPLE 2000

9.12 *Increase use of occupant protection systems such as safety belts, inflatable safety restraints, and child safety seats to at least 85% of motor vehicle occupants.*

U.S. Baseline: 58% in 1988

Year	*1988*	*1989*	*1990*	*1991*	*1992*
Montana	69.7%	72.2%	71.7%	71.5%	75.7%
U.S. Median				*76.2%*	

Figure 3

Drinking & Driving

Question: *During the past month, how many times have you driven when you've had perhaps too much to drink?*

Traffic accidents involving alcohol consumption continue to be a major contributor to injury and death in the U.S. and Montana. While changes in Montana law concerning driving under the influence (DUI) as well as numerous state and national education programs have helped decrease alcohol-related vehicle injuries and fatalities, more can be done.

In 1992, of the 190 people killed in traffic accidents in Montana, 93 (nearly 49 percent) had been drinking. Nearly 49 percent of passengers, pedestrians, and bicyclists, as well as drivers of motor vehicles including motorcycles, who died as a result of the accident had been drinking alcohol.

Young males are most likely to take the chance of driving after drinking. In fact, male respondents were four times more likely to say they had taken that risk than female respondents.

Among all categories, gender and age seem to show the strongest correlations with reported drinking and driving. Significantly, 5.7 percent of those reporting annual incomes of more than $50,000 also reported having driven a vehicle after drinking too much alcohol. In all other

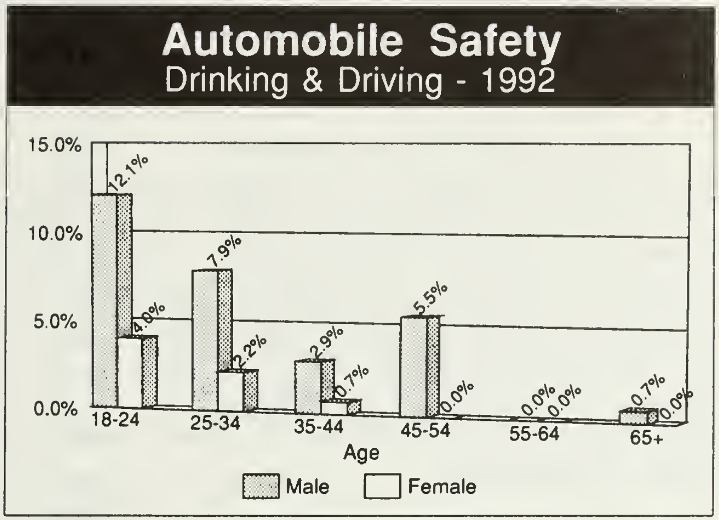

Figure 4

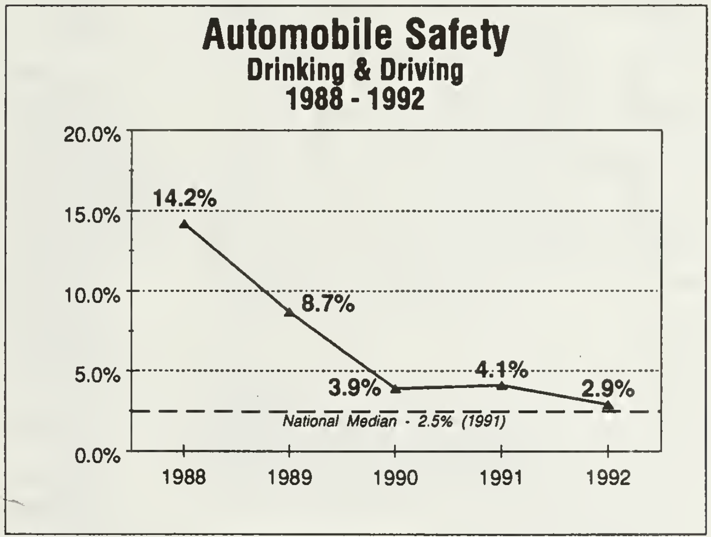

Figure 5

income categories, the higher the income the lower the prevalence of drinking and driving.

Unlike some other high-risk behaviors, higher levels of education do not seem to correlate with a lower percentage of "Yes" answers to the drinking and driving question. Slightly more than 6 percent of those reporting "some college" also reported driving after drinking.

The rapid decline in the percent of respondents reporting this high-risk behavior (from 14.2 percent in 1988 to 2.9 percent in 1992) seems to indicate that stricter enforcement of DUI laws and increased efforts to educate the public about the dangers of drinking and driving are providing positive results.

The total number of deaths in Montana resulting from traffic accidents has ranged between 198 in 1988 to a high of 212 in 1990 and down to 190 in 1992. During the same period, the number of traffic deaths involving alcohol has decreased from 95 in 1988 to 86 in 1992.

Table 4
Precent of Population at Risk from Drinking & Driving - 1992

	YES		*NO*		*UNKNOWN*		*TOTAL*	
	N	*%*	*N*	*%*	*N*	*%*	*n*	*%*
SEX								
MALE	23	4.8	488	94.6	4	0.5	515	100.0
FEMALE	9	1.1	664	98.9	0	0	673	100.0
AGE GROUP								
18-24	9	8.1	109	91.9	0	0	118	100.0
25-34	10	5.0	215	94.7	1	0.3	226	100.0
35-44	6	1.8	293	97.8	1	0.4	300	100.0
45-54	6	2.8	161	96.4	2	0.8	169	100.0
55-64	0	0	135	100.0	0	0	135	100.0
65 +	1	0.3	239	99.7	0	0	240	100.0
TOTAL	32	2.9	1152	96.8	4	0.3	1188	100.0
INCOME								
<$10,000	4	4.4	174	95.6	0	0	178	100.0
$10-$14,999	5	3.4	162	96.6	0	0	167	100.0
$15-$19,999	5	3.4	147	96.6	0	0	152	100.0
$20-$24,999	2	2.6	96	97.4	0	0	98	100.0
$25-$34,999	6	2.1	186	97.3	2	0.6	194	100.0
$35-$50,000	2	1.3	169	98.2	1	0.4	172	100.0
>$50,000	8	5.7	119	94.3	0	0	127	100.0
UNK/REF	0	0	99	98.9	1	1.1	100	100.0
TOTAL	32	2.9	1152	96.8	4	0.3	1188	100.0
EDUCATION								
<9TH GRADE	1	2.0	68	98.0	0	0	69	100.0
SOME HIGH SCHOOL	1	0.6	88	99.4	0	0	89	100.0
HIGH SCHOOL GRADUATE	7	1.7	409	98.1	1	0.2	417	100.0
SOME TECH SCHOOL	1	3.2	20	96.8	0	0	21	100.0
TECH SCHOOL GRADUATE	1	1.5	42	98.5	0	0	43	100.0
SOME COLLEGE	13	6.2	263	93.8	0	0	276	100.0
COLLEGE GRADUATE	8	3.9	168	95.8	1	0.3	177	100.0
POST GRADUATE	0	0	93	97.9	2	2.1	95	100.0
UNK/REF	0	0	1	100.0	0	0	1	100.0
TOTAL	32	2.9	1152	96.8	4	0.3	1188	100.0

Hypertension

Overview

High blood pressure (blood pressure equal to or greater than 140 mm Hg systolic and/or 90 mm Hg diastolic and/or taking anti-hypertensive medication) is a risk factor for stroke, renal disease, and cardiovascular disease. Life-style factors which influence the development of high blood pressure include high sodium intake, excessive consumption of calories and fat, physical inactivity, excessive alcohol consumption, and low intake of potassium. In this survey, answers to two questions are used as indicators of the prevalence of "at risk" from hypertension. One identifies respondents who report that they have been told by a health care provider that their blood pressures were high. The other identifies those who have had their blood pressure checked in the last two years by a health care professional. "No" answers to the latter question identifies those who may have little awareness of their blood pressure level, including those with unidentified high blood pressure.

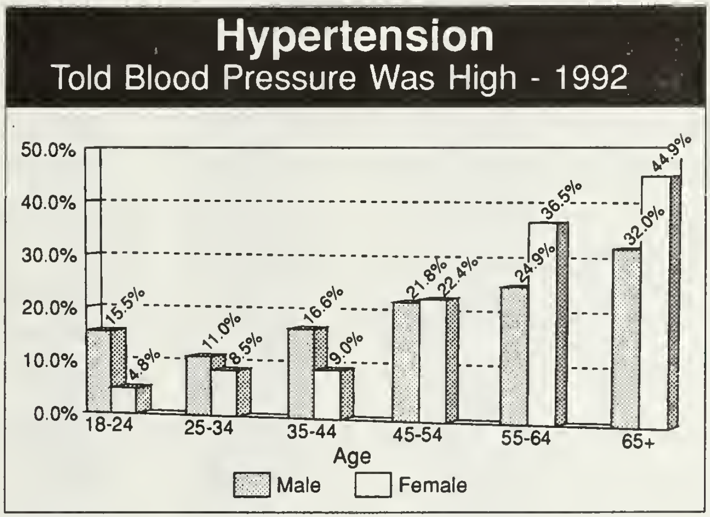

Figure 6

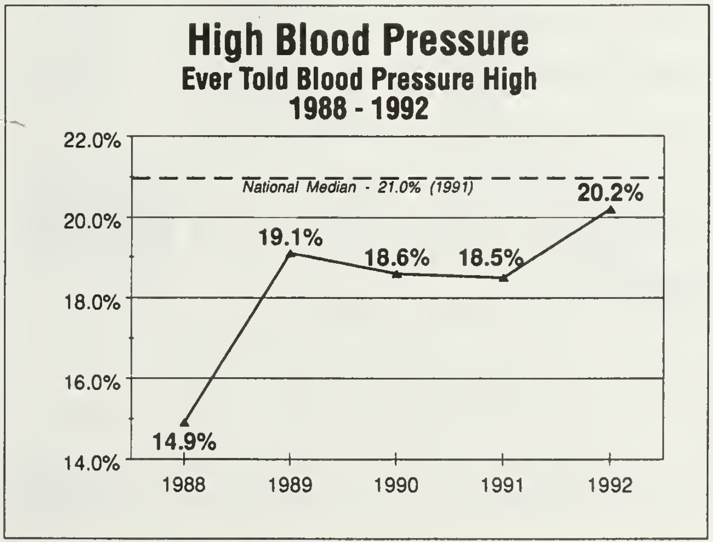

Figure 7

High Blood Pressure Reported

Question: *Have you ever been told by a doctor, nurse, or other health professional that you have high blood pressure?*

Just over 20 percent of Montanans responding to the 1992 BRFSS survey were at risk from reported hypertension -- a 2 percent increase over previous years (18.6 percent reported high blood pressure in 1990 and 18.5 percent reported such in 1991). It is possible that such results might indicate that prevalence of high blood pressure has increased. However, it might also indicate that awareness has increased, raising the percent of those with hypertension who are in a position to report that they have the disease.

Among those responding to BRFSS in 1992, the percent reporting having been told they had high blood pressure increased with age. While only about 10 percent of those 18 to 34 years old said they had been diagnosed with hypertension, nearly 40 percent of those over 65 said they had.

Nationally, hypertension is present in approximately 60 percent of those 60 years old and older. What is more, studies show that detection and treatment of hypertension can reduce instances of stroke by as much as 36 percent and reduce the occurrence of myocardial infarctions by some 27 percent.

The 20 percent difference between the percent of older Montanans reporting being diagnosed as having hypertension and the national average of 60 percent of individuals 60 and older suggests there may be a need for increased screening and education concerning the importance of having blood pressure levels checked on a regular basis.

Table 5
Percent of Population with High Blood Pressure
Reported by Professional - 1992

	YES		*NO*		*UNKNOWN*		*TOTAL*	
	N	*%*	*N*	*%*	*N*	*%*	*N*	*%*
SEX								
MALE	106	19.5	408	80.4	1	0.1	515	100.0
FEMALE	142	20.8	531	79.2	0	0	673	100.0
AGE GROUP								
18-24	11	10.3	107	89.7	0	0	118	100.0
25-34	22	9.7	204	90.3	0	0	226	100.0
35-44	37	12.9	262	86.9	0	0	300	100.0
45-54	39	22.1	130	77.9	0	0	169	100.0
55-64	41	30.8	94	69.2	0	0	135	100.0
65 +	98	39.3	142	60.7	0	0	240	100.0
TOTAL	248	20.2	940	79.8	1	0.0	1188	100.0
INCOME								
<$10,000	42	23.0	136	77.0	0	0	178	100.0
$10-$14,999	39	20.7	128	79.3	0	0	167	100.0
$15-$19,999	37	25.8	115	74.2	0	0	152	100.0
$20-$24,999	18	20.0	79	79.4	1	0.5	98	100.0
$25-$34,999	39	19.2	155	80.8	0	0	194	100.0
$35-$50,000	28	16.1	144	83.9	0	0	172	100.0
>$50,000	30	21.7	97	78.3	0	0	127	100.0
UNK/REF	15	13.9	85	86.1	0	0	100	100.0
TOTAL	248	20.2	939	79.8	1	0.0	1188	100.0
EDUCATION								
<9TH GRADE	22	30.9	47	69.1	0	0	69	100.0
SOME HIGH SCHOOL	25	24.6	64	75.4	0	0	89	100.0
HIGH SCHOOL GRADUATE	84	18.4	333	81.6	0	0	417	100.0
SOME TECH SCHOOL	6	32.0	15	68.0	0	0	21	100.0
TECH SCHOOL GRADUATE	11	23.6	32	76.4	0	0	43	100.0
SOME COLLEGE	45	17.5	230	82.3	1	0.2	276	100.0
COLLEGE GRADUATE	35	20.8	142	79.2	0	0	177	100.0
POST GRADUATE	20	19.2	75	80.8	0	0	95	100.0
UNK/REF	1	100.0	0	0	0	0	1	100.0
TOTAL	248	20.2	939	79.8	1	0.0	1188	100.0

Blood Pressure Checked

Question: About how long has it been since you last had your blood pressure taken by a doctor, nurse, or other health professional?

The "No" column of Table 6 represents respondents who indicated that they had not had their blood pressure taken by a health professional in the past two years. Just under 8 percent of respondents either indicated it had been more than two years or that they did not know the answer to the question. This group is also considered "at risk" from hypertension due to their lack of knowledge of their status.

Because hypertension is one of the major risk factors for coronary heart disease and the most important risk factor for cerebrovascular diseases, awareness is particularly important. Nationally, as awareness, treatment, and control of hypertension has increased during the past two decades, death from coronary heart disease and stroke has declined dramatically.

Table 6
Percent of Population Having Blood Pressure Checked Within Past Two Years - 1992

	YES		NO		UNKNOWN		TOTAL	
	N	%	N	%	N	%	N	%
SEX								
MALE	463	90.0	48	9.2	4	0.8	515	100.0
FEMALE	638	94.6	31	4.9	4	0.5	673	100.0
AGE GROUP								
18-24	109	89.8	8	10.0	1	0.2	118	100.0
25-34	209	91.6	16	7.8	1	0.6	226	100.0
35-44	269	90.0	29	9.6	2	0.4	300	100.0
45-54	158	93.5	9	5.2	2	1.3	169	100.0
55-64	130	96.5	5	3.5	0	0	135	100.0
65 +	226	94.2	12	4.7	2	1.1	240	100.0
TOTAL	1101	92.4	79	7.0	8	0.6	1188	100.0
INCOME								
<$10,000	165	90.1	12	9.7	1	0.3	178	100.0
$10-$14,999	149	89.4	17	9.9	1	0.7	167	100.0
$15-$19,999	143	94.7	9	5.3	0	0	152	100.0
$20-$24,999	93	96.4	3	1.6	2	1.9	98	100.0
$25-$34,999	179	92.5	15	7.5	0	0	194	100.0
$35-$50,000	161	93.6	11	6.4	0	0	172	100.0
>$50,000	121	93.1	5	6.1	1	0.8	127	100.0
UNK/REF	90	89.3	7	8.0	3	2.7	100	100.0
TOTAL	1101	92.4	79	7.0	8	0.6	1188	100.0
EDUCATION								
<9TH GRADE	64	93.0	4	5.5	1	1.5	69	100.0
SOME HIGH SCHOOL	81	89.6	8	10.4	0	0	89	100.0
HIGH SCHOOL GRADUATE	382	92.0	31	7.4	4	0.6	417	100.0
SOME TECH SCHOOL	21	100.0	0	0	0	0	21	100.0
TECH SCHOOL GRADUATE	39	91.4	4	8.6	0	0	43	100.0
SOME COLLEGE	256	91.8	18	7.3	2	0.9	276	100.0
COLLEGE GRADUATE	165	92.7	12	7.3	0	0	177	100.0
POST GRADUATE	92	96.2	2	2.5	1	1.3	95	100.0
UNK/REF	1	100.0	0	0	0	0	1	100.0
TOTAL	1101	92.4	79	7.0	8	0.6	1188	100.0

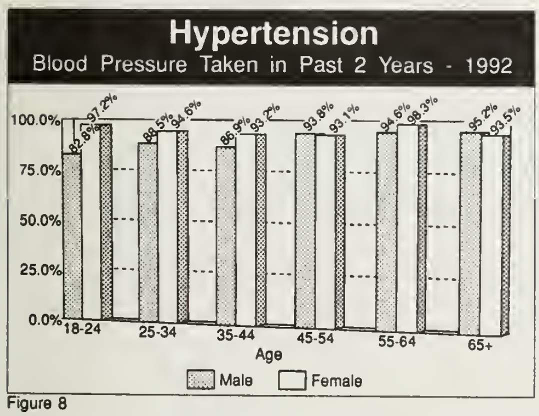

Figure 8

HEALTHY PEOPLE 2000

15.13 *Increase to at least 90% the proportion of adults who have had their blood pressure measured within the preceding 2 years and can state whether their bood pressure was normal or high.*

U.S. Baseline: 61% in 1985

Year	*1988*	*1989*	*1990*	*1991*	*1992*
Montana	N/A	N/A	N/A	93.6%	92.4%
U.S. Median				*94.4%*	

Figure 9

Overweight

Overview

Excess weight places an individual at increased risk from elevated serum cholesterol, heart disease, some forms of cancer, diabetes, digestive diseases, and cardiovascular disease. Risk increases as weight increases. Primary factors influencing obesity are caloric intake, metabolic rate, exercise, and heredity. Although hereditary predisposition to obesity cannot be influenced by behavior, all of the other factors that contribute to overweight can be managed through a combination of a sensible eating habits and physical activity.

Two common methods used to estimate obesity are relative weight and body mass index (BMI). Relative weight is equal to actual body weight divided by desirable weight for an individual with a medium frame. BMI is body weight in kilograms divided by height in meters squared. Because BMI is considered by experts to be a more precise measurement of overweight, it was used as the measure in this study.

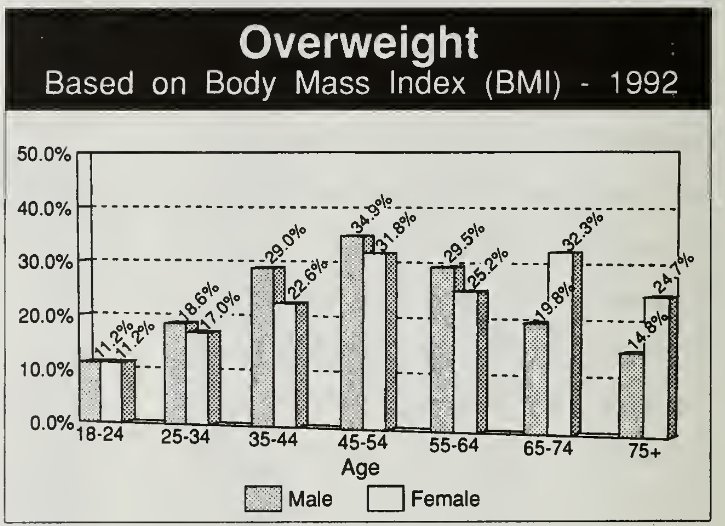

Figure 10

Questions: *About how much do you weigh without shoes? About how tall are you without shoes?*

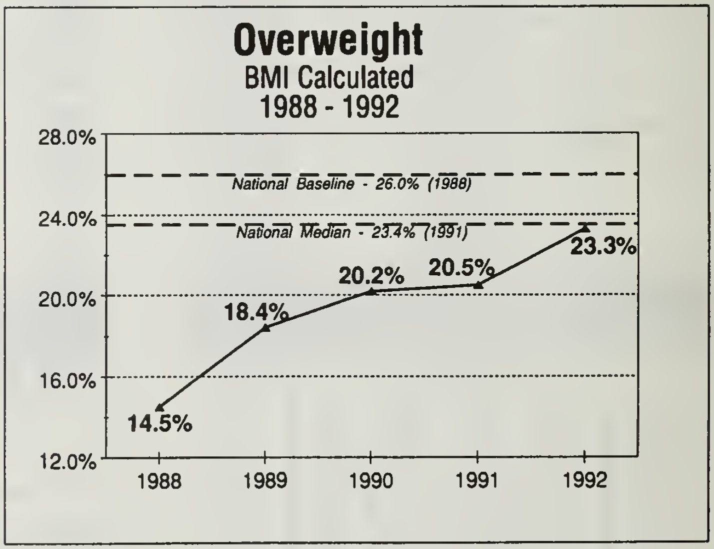

Figure 11

Overweight seems to be an increasing problem among Montanans. In 1988, only 14.5 percent of BRFSS respondents reported heights and weights that resulted in high BMIs. Since that year, instances of reported overweight have increased to nearly 21 percent in 1991 and more than 23 percent 1992. Because excess weight contributes to many other health problems, the continued increase may foretell deterioration of general health among segments of the population.

Instances of overweight increase with age, but tend to decrease beyond the middle age years. Respondents 45 to 55 were three times more likely to report higher than normal BMIs than 18- to 24-year-olds. They were also more likely to report higher than normal BMIs than individuals 65 years old and older although the difference is not as great.

The tendency toward being overweight seems to be higher among men between ages 35 and 64, while women seem to have the higher BMIs after age 64.

The Year 2000 Healthy People objective for obesity is to reduce overweight to a prevalence of no more than 20 percent among persons aged 20 and older and no more than 15 percent among adolescents aged 12 through 19. Although Montana BRFSS data are not broken down for these specific age categories, it appears Montanans were doing much better in the late 1980s than in the early 1990s and the trend is toward more, not less, weight gain.

Table 7
Percent of Population at Risk for Overweight - 1992

	YES		NO		UNKNOWN		TOTAL	
	N	%	N	%	N	%	N	%
SEX								
MALE	128	23.6	386	76.3	1	0.1	515	100.0
FEMALE	160	23.1	494	73.8	19	3.1	673	100.0
AGE GROUP								
18-24	15	11.2	102	88.4	1	0.4	118	100.0
25-34	41	17.8	184	81.8	1	0.5	226	100.0
35-44	75	25.9	218	71.2	7	2.9	300	100.0
45-54	56	33.3	108	63.6	5	3.1	169	100.0
55-64	37	27.3	98	72.7	0	0	135	100.0
65-74	38	27.1	92	71.2	2	1.8	132	100.0
75 +	26	20.2	78	76.5	4	3.4	108	100.0
TOTAL	288	23.3	880	75.0	20	1.7	1188	100.0
INCOME								
<$10,000	45	22.3	130	76.6	3	1.1	178	100.0
$10-$14,999	43	23.5	120	74.5	4	2.0	167	100.0
$15-$19,999	50	30.3	102	69.7	0	0	152	100.0
$20-$24,999	17	15.8	81	84.2	0	0	98	100.0
$25-$34,999	38	19.5	153	78.8	3	1.7	194	100.0
$35-$50,000	41	24.7	128	73.4	3	1.9	172	100.0
>$50,000	40	31.5	85	66.8	2	1.8	127	100.0
UNK/REF	14	14.8	81	79.5	5	5.7	100	100.0
TOTAL	288	23.3	880	75.0	20	1.7	1188	100.0
EDUCATION								
<9TH GRADE	21	26.4	46	71.2	2	2.4	69	100.0
SOME HIGH SCHOOL	30	34.1	59	65.9	0	0	89	100.0
HIGH SCHOOL GRADUATE	102	22.5	304	74.7	11	2.8	417	100.0
SOME TECH SCHOOL	8	38.8	13	61.2	0	0	21	100.0
TECH SCHOOL GRADUATE	13	29.1	27	64.8	3	6.1	43	100.0
SOME COLLEGE	53	19.8	221	79.5	2	0.7	276	100.0
COLLEGE GRADUATE	39	22.4	137	77.1	1	0.5	177	100.0
POST GRADUATE	22	20.8	72	78.1	1	1.0	95	100.0
UNK/REF	0	0	1	100.0	0	0	1	100.0
TOTAL	288	23.3	880	75.0	20	1.7	1188	100.0

HEALTHY PEOPLE 2000 **1.2**

Reduce overweight to a prevalence of no more than 20% among people aged 20 and older and no more than 15% among adolescents age 12 through 19.

U.S. Baseline: 26% in 1988

Year	*1988*	*1989*	*1990*	*1991*	*1992*
Montana	14.5%	18.4%	20.2%	20.5%	23.3%
U.S. Median				*23.4%*	

Figure 12

Sedentary Life-Style

Overview

While experts may disagree on the specifics of what types and how much physical activity is good for an individual, most agree that moderate, regular physical activity is an essential component of a healthy life-style. Most people, expert or not, will acknowledge that an inactive life-style is not ideal for good health. Regular physical activity is believed to help prevent or control coronary heart disease, hypertension, non-insulin-dependent diabetes, osteoporosis, obesity, and mental health problems. Since coronary heart disease is the leading cause of death and disability in Montana, the extent to which Montanans incorporate physical activity into their daily lives is of particular importance.

Question: *During the past month, did you participate in any physical activities or exercises such as running, calisthenics, golf, gardening, or walking for exercise?*

Respondents were classified as having a sedentary life-style if they reported no physical activity or reported engaging in one or more leisure-time physical activities in which less than a total of one hour per week was devoted. Based on that definition, more than 54 percent of all Montanans responding to the BRFSS survey, lived a sedentary life-style in 1992. That is up from approximately 50 percent in 1991.

Of respondents who have annual incomes of less than $10,000, nearly 60 percent reported sedentary life-styles. Even worse, 73 percent -- more than 7 out of every 10 -- of those with less than a 9th grade education reported living life with

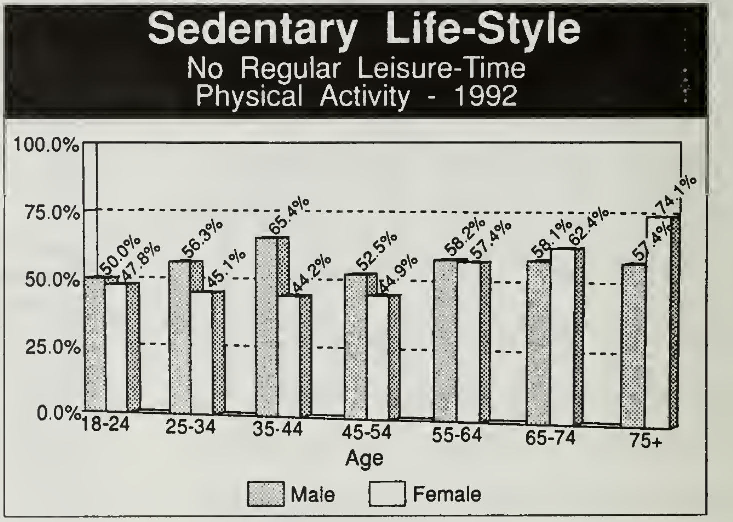

Figure 13

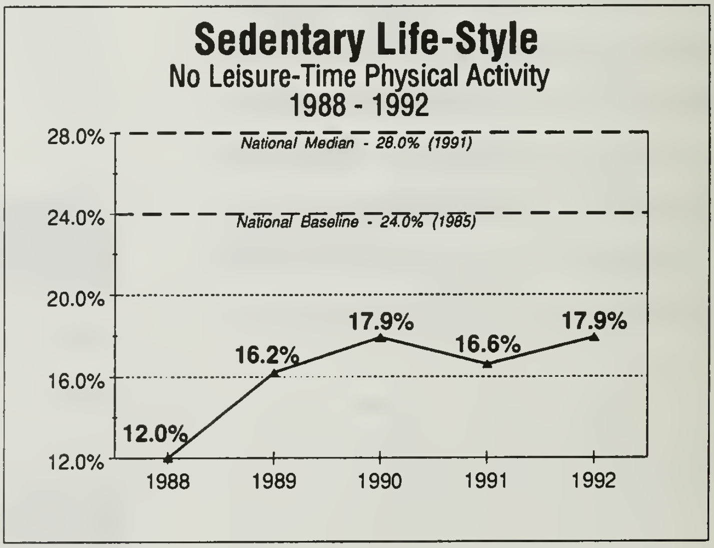

Figure 14

little or no leisure-time physical activities. By contrast, among respondents with annual incomes of more than $50,000, about 50 percent reported sedentary life-styles and among respondents with post graduate degrees, just over 40 percent reported life-styles without regular physical activity. It should be noted, however, that individuals in lower income brackets and with less education are more likely to have employment involving physical labor of some kind. Therefore, physical activity during leisure time is not as important to their good health as to the "white collar" worker whose work in an office setting often does not include physical activity of any kind.

As in the case of reported high and increasing instances of overweight among respondents, the indication of a population with increasing tendencies toward sedentary life-styles is a forewarning of increases in other areas of poor health.

Table 8
Percent of Population at Risk from Sedentary Life-Style - 1992
No Regular Leisure-Time Physical Activity

	YES		*NO*		*UNK*		*TOTAL*	
	N	*%*	*N*	*%*	*N*	*%*	*N*	*%*
SEX								
MALE	300	57.5	214	42.3	1	0.2	515	100.0
FEMALE	346	51.1	327	48.9	0	0	673	100.0
AGE GROUP								
18-24	59	48.9	59	51.1	0	0	118	100.0
25-34	107	50.6	118	48.8	1	0.6	226	100.0
35-44	164	54.9	136	45.1	0	0	300	100.0
45-54	84	48.7	85	51.3	0	0	169	100.0
55-64	79	57.8	56	42.2	0	0	135	100.0
65-74	79	60.6	53	39.4	0	0	132	100.0
75 +	74	66.5	34	33.5	0	0	108	100.0
TOTAL	646	54.2	541	45.7	1	0.1	1188	100.0
INCOME								
<$10,000	112	59.9	66	40.1	0	0	178	100.0
$10-$14,999	98	60.7	69	39.3	0	0	167	100.0
$15-$19,999	78	52.2	74	47.8	0	0	152	100.0
$20-$24,999	47	49.7	51	50.3	0	0	98	100.0
$25-$34,999	101	52.1	93	47.9	0	0	194	100.0
$35-$50,000	85	49.4	86	49.8	1	0.8	172	100.0
>$50,000	63	50.2	64	49.8	0	0	127	100.0
UNK/REF	62	61.2	38	38.8	0	0	100	100.0
TOTAL	646	54.2	541	45.7	1	0.1	1188	100.0
EDUCATION								
<9TH GRADE	54	73.1	15	26.9	0	0	69	100.0
SOME HIGH SCHOOL	51	57.8	38	42.2	0	0	89	100.0
HIGH SCHOOL GRADUATE	241	56.9	175	42.8	1	0.3	417	100.0
SOME TECH SCHOOL	14	68.0	7	32.0	0	0	21	100.0
TECH SCHOOL GRADUATE	25	60.9	18	39.1	0	0	43	100.0
SOME COLLEGE	146	53.1	130	46.9	0	0	276	100.0
COLLEGE GRADUATE	74	42.8	103	57.2	0	0	177	100.0
POST GRADUATE	40	40.8	55	59.2	0	0	95	100.0
UNK/REF	1	100.0	0	0	0	0	1	100.0
TOTAL	646	54.2	541	45.7	1	0.1	1188	100.0

HEALTHY PEOPLE 2000 **1.5** *Reduce to no more than 15% the proportion of people aged 6 and over who engage in no leisure-time physical activity.*

U.S. Baseline: 24% in 1985

Year	*1988*	*1989*	*1990*	*1991*	*1992*
Montana	12.0%	16.2%	17.9%	16.6%	17.9%
U.S. Median				*28.0%*	

Figure 15

Tobacco Use

Overview

Use of tobacco, in general, and cigarette smoking, in particular, are the most preventable causes of death and disability. Tobacco smoking is associated with heart disease, stroke, emphysema, complications of pregnancy, and cancer (of the lung, esophagus, pancreas, larynx, cervix, bladder, and kidney). In Montana, one out of every five deaths is tobacco related. Each year, more people die of tobacco-related diseases than from causes associated with AIDS, drug abuse, alcohol abuse, automobile and airplane accidents, suicides, fire, and homicide combined. The national average death rate is about twice as high for heavy smokers between the ages of 25 and 65 than for non-smokers. Although millions of Americans have stopped smoking -- nearly one-half of all adults who ever smoked have stopped -- millions still are unable to quit.

It is estimated that some 3,000 American young people start smoking each day. As many as 90 percent of current smokers began before age 20. An adolescent health survey conducted in Montana during the 1990-1991 school year revealed that 48 percent of females and 56 percent of males in grades 7 through 12 reported that they had already tried cigarette smoking or thought they would within the year. The survey also showed that 22 percent of all students in those grades reported that they smoked regularly (Montana Office of Public Instruction (OPI), July 1991). The age group studied in the OPI survey are younger than the youngest group contacted in the BRFSS survey (18-24), but depicts a health problem which permeates our entire society.

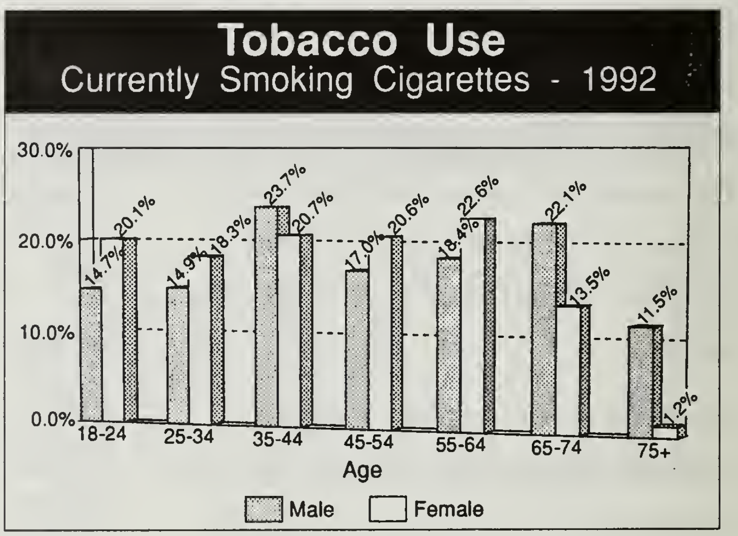

Figure 16

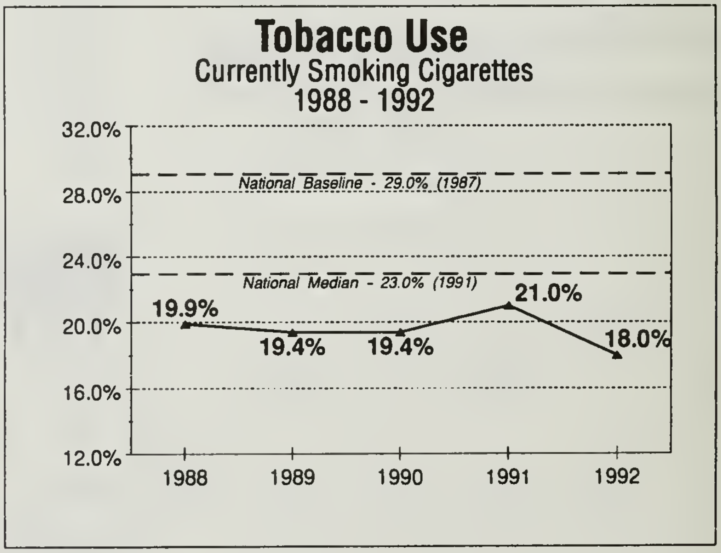

Figure 17

Cigarette Smoking

Question: *Do you smoke cigarettes now?*

A current smoker is defined as a person who has smoked at least 100 cigarettes in his or her lifetime and who currently smokes. Among respondents to the 1992 BRFSS survey, 18 percent were current smokers; a reduction in percent from approximately 21 percent as reported in 1991, representing a continued downward trend from 29 percent in 1988.

The percent of male respondents who smoke approximately equaled the percent of females who smoke, overall. However, among younger respondents, significantly higher percents of females reported smoking. Among the 18- to 24-year age group, just under 15 percent of males said they smoked. Among females in the same age group, slightly more than 20 percent admitted to being smokers; an important finding since that age group represents the early child-bearing age group and is a target market segment of tobacco advertising. Among older groups, age 65 and older, significantly more males reported smoking than females.

The Healthy People 2000 objective calls for a reduction in the prevalence of cigarette smoking among people aged 20 and older to 15 percent or less. Our task is to address the cultural, social, and environmental factors associated with tobacco use as well as the addictive nature of the drug nicotine, reducing tobacco use to meet that objective.

Table 9
Percent of Population at Risk from Smoking - 1992

	YES		NO		UNKNOWN		TOTAL	
	N	%	N	%	N	%	N	%N
SEX								
MALE	99	18.0	416	82.0	0	0	515	100.0
FEMALE	120	17.9	552	81.9	1	0.2	673	100.0
AGE GROUP								
18-24	20	17.3	98	82.7	0	0	118	100.0
25-34	41	16.6	185	83.4	0	0	226	100.0
35-44	69	22.2	231	77.8	0	0	300	100.0
45-54	32	18.7	136	80.6	1	0.6	169	100.0
55-64	28	20.5	107	79.5	0	0	135	100.0
65-74	23	17.1	109	82.9	0	0	132	100.0
65 +	29	12.7	211	87.3	0	0	240	100.0
TOTAL	219	18.0	968	81.9	1	0.1	1188	100.0
INCOME								
<$10,000	38	20.8	140	79.2	0	0	178	100.0
$10-$14,999	44	26.7	122	72.7	1	0.6	167	100.0
$15-$19,999	29	19.3	123	80.7	0	0	152	100.0
$20-$24,999	17	16.3	81	83.7	0	0	98	100.0
$25-$34,999	35	16.8	159	83.2	0	0	194	100.0
$35-$50,000	28	16.3	144	83.7	0	0	172	100.0
>$50,000	14	10.2	113	89.8	0	0	127	100.0
UNK/REF	14	15.2	86	84.8	0	0	100	100.0
TOTAL	219	18.0	968	81.9	1	0.1	1188	100.0
EDUCATION								
<9TH GRADE	13	19.8	56	80.2	0	0	69	100.0
SOME HIGH SCHOOL	26	29.2	62	69.7	1	1.1	89	100.0
HIGH SCHOOL GRADUATE	86	19.3	331	80.7	0	0	417	100.0
SOME TECH SCHOOL	5	24.9	16	75.1	0	0	21	100.0
TECH SCHOOL GRADUATE	5	7.7	38	92.3	0	0	43	100.0
SOME COLLEGE	53	18.4	223	81.6	0	0	276	100.0
COLLEGE GRADUATE	19	11.2	158	88.8	0	0	177	100.0
POST GRADUATE	12	12.4	83	87.6	0	0	95	100.0
UNK/REF	0	0	1	100.0	0	0	1	100.0
TOTAL	219	18.0	968	81.9	1	0.1	1188	100.0

HEALTHY PEOPLE 2000

3.4 *Reduce cigarette smoking to a prevalence of no more than 15% among people aged 20 and older.*

U.S. Baseline: 29% in 1987

Year	*1988*	*1989*	*1990*	*1991*	*1992*
Montana	19.9%	19.4%	19.4%	21.0%	18.0%
U.S. Median				*23.0%*	

Figure 18

Smokeless Tobacco Use

Question: *Do you currently use any smokeless tobacco products such as chewing tobacco or snuff?*

While the overall percent of people using smokeless tobacco is smaller than those smoking cigarettes, use of chewing tobacco and snuff represents a notable health hazard, especially among young males in Montana. More than one out of every four male respondents between the ages of 25 and 34 reported using smokeless tobacco in 1992. Thus, while use of cigarettes among members of that age group has dropped to less than 15 percent, better than 26 percent use smokeless tobacco products. Moreover, the percent of males reporting the use of smokeless tobacco has remained relatively steady since 1988 when 15.4 percent said they used. In 1992, 14.4 percent reported using smokeless tobacco. Despite a seeming drop to 12 percent in 1989, the actual reduction over the five-year period has been just one percentage point.

Smokeless tobacco use is exceedingly high among youth in Montana compared to the rest of the country. Montana males use smokeless tobacco at a rate two and one-half times the national average.

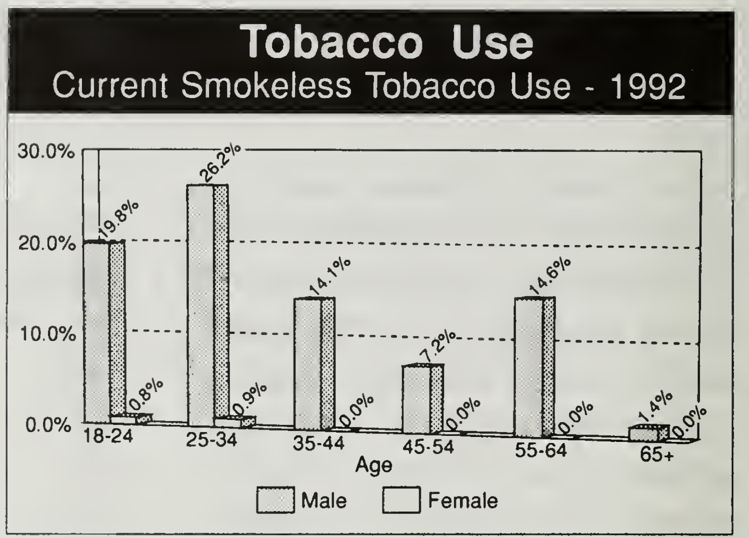

Figure 19

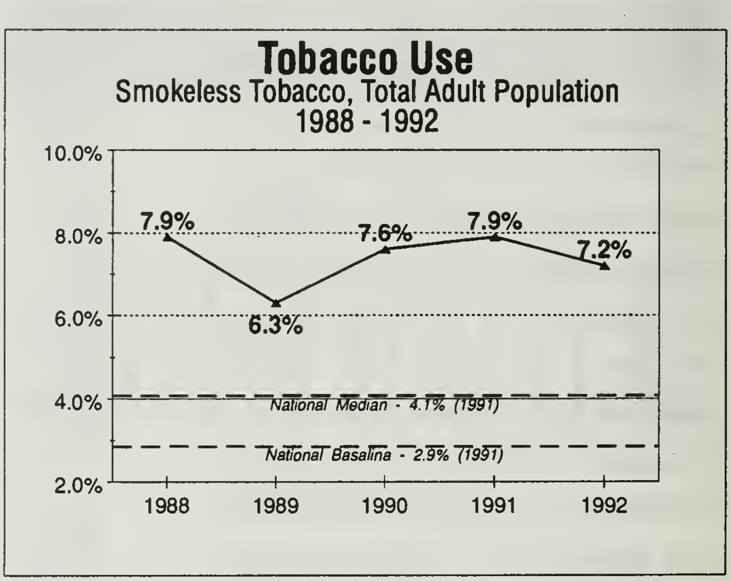

Figure 20

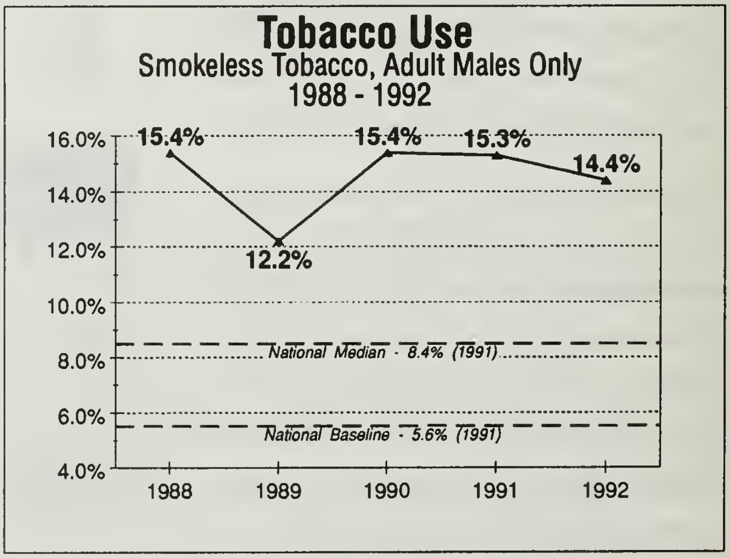

Figure 21

The health effects of smokeless tobacco use include development of gingival recession, oral leukoplakia, and ultimately oral cancer. Oral cancer may be up to 50 times more prevalent among smokeless tobacco users than non-users.

Table 10
Percent of Population at Risk for Smokeless Tobacco Use

	YES		NO		TOTAL	
	N	%	N	%	N	%
SEX						
MALE	67	14.4	448	85.6	515	100.0
FEMALE	2	0.3	671	99.7	673	100.0
AGE GROUP						
18-24	10	10.5	108	89.5	118	100.0
25-34	25	13.3	201	86.7	226	100.0
35-44	18	7.1	282	92.9	300	100.0
45-54	6	3.6	163	96.4	169	100.0
55-64	9	7.1	126	92.9	135	100.0
65 +	1	0.6	239	99.4	240	100.0
INCOME						
<$10,000	4	3.2	174	96.8	178	100.0
$10-$14,999	7	5.3	160	94.7	167	100.0
$15-$19,999	10	8.9	142	91.1	152	100.0
$20-$24,999	5	6.0	93	94.0	98	100.0
$25-$34,999	18	10.7	176	89.3	194	100.0
$35-$50,000	11	7.4	161	92.6	172	100.0
>$50,000	11	9.8	116	90.2	127	100.0
UNK/REF	3	3.7	97	96.3	100	100.0
TOTAL	69	7.2	1119	92.8	1188	100.0
EDUCATION						
<9TH GRADE	3	5.8	66	94.2	69	100.0
SOME HIGH SCHOOL	4	4.9	85	95.1	89	100.0
HIGH SCHOOL GRADUATE	26	7.8	391	92.2	417	100.0
SOME TECH SCHOOL	3	16.9	18	83.1	21	100.0
TECH SCHOOL GRADUATE	2	4.4	41	95.6	43	100.0
SOME COLLEGE	17	7.6	259	92.4	276	100.0
COLLEGE GRADUATE	13	9.1	164	90.9	177	100.0
POST GRADUATE	1	1.6	94	98.4	95	100.0
UNK/REF	0	0	1	100.0	1	100.0
TOTAL	69	7.2	1119	92.8	1188	100.0

HEALTHY PEOPLE 2000

3.9 *Reduce smokeless tobacco use by males aged 12 through 24 to a prevalence of no more than 4%.*

U.S. Baseline: 5.6% in 1991

Year	*1988*	*1989*	*1990*	*1991*	*1992*
Montana	15.4%	12.2%	15.4%	15.3%	14.4%
U.S. Median				*8.4%*	

Figure 22

Alcohol Consumption

Overview

Excessive alcohol consumption contributes to liver disease, motor vehicle and other accidents, suicides, homicides, some forms of cancer, and birth defects among infants whose mothers consumed alcohol during pregnancy. According to a background paper presented at a 1989 Surgeon General's Workshop on Drunk Driving, approximately one-third of all victims of homicides, drowning, and boating accidents are intoxicated. The costs to society associated with alcohol abuse stemming from premature deaths, lost productivity, disability, unintended pregnancies, and other social problems are staggering.

Acute Drinking

Question: *Considering all types of alcoholic beverages, that is beer, wine, wine coolers, cocktails, and liquor, as drinks, how many times during the past month did you have 5 or more drinks on an occasion?*

Respondents who indicated consumption of five or more drinks on at least one occasion during the past month were considered at risk from acute or "binge" alcohol consumption. In 1992, 17.2 percent of all Montanans surveyed indicated they were binge consumers of alcohol according to those criteria, a continuation of a five-year downward trend from a high of 24.8 percent in 1988. More males were at risk than females; nearly 25 percent of males compared to just over 10 percent of females responding to the survey were at risk.

Younger respondents were more likely to have consumed large quantities of alcohol on one occasion than older respondents. While almost 31 percent of those 18 to 24

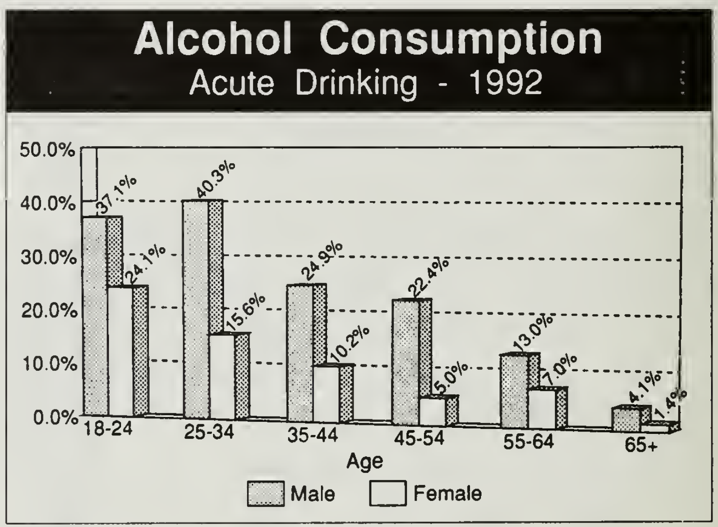

Figure 23

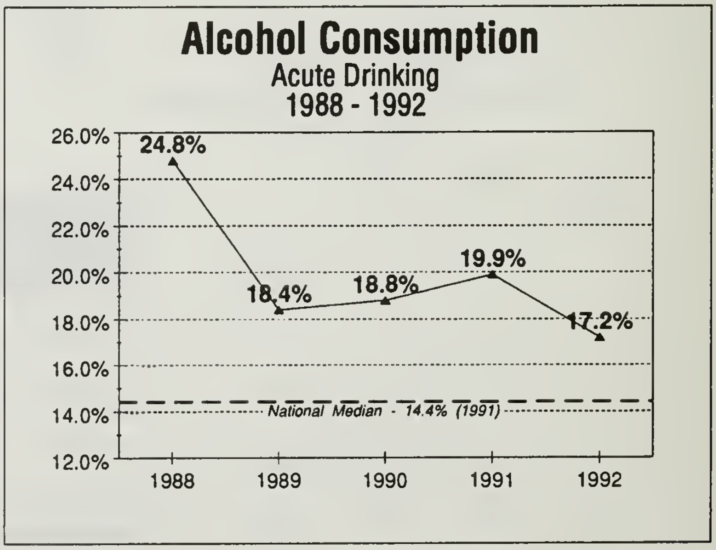

Figure 24

years old reported binge drinking, just under 10 percent of those 55 to 64, and less than 3 percent of those 65 or older, consumed five or more drinks at one time during the month.

Table 11
Percent of Population at Risk for Acute Drinking - 1992

	YES		*NO*		*UNKNOWN*		*TOTAL*	
	N	*%*	*N*	*%*	*N*	*%*	*N*	*%*
SEX								
MALE	123	24.6	388	74.9	4	0.5	515	100.0
FEMALE	68	10.1	603	89.7	2	0.2	673	100.0
AGE GROUP								
18-24	37	30.7	81	69.3	0	0	118	100.0
25-34	58	27.8	167	72.0	1	0.3	226	100.0
35-44	51	17.6	247	82.0	2	0.4	300	100.0
45-54	24	13.8	143	85.3	2	0.9	169	100.0
55-64	15	9.9	119	89.3	1	0.8	135	100.0
65 +	6	2.6	234	97.4	0	0	240	100.0
TOTAL	191	17.2	991	82.5	6	0.4	1188	100.0
INCOME								
<$10,000	28	17.7	150	82.3	0	0	178	100.0
$10-$14,999	23	15.0	144	85.0	0	0	167	100.0
$15-$19,999	28	20.8	123	78.7	1	0.5	152	100.0
$20-$24,999	19	19.5	78	79.9	1	0.3	98	100.0
$25-$34,999	47	25.0	146	74.7	1	0.3	194	100.0
$35-$50,000	25	15.3	145	83.6	2	1.1	172	100.0
>$50,000	16	12.3	110	87.4	1	0.3	127	100.0
UNK/REF	5	6.1	95	93.9	0	0	100	100.0
TOTAL	191	17.2	991	82.5	6	0.4	1188	100.0
EDUCATION								
<9TH GRADE	3	4.2	66	95.8	0	0	69	100.0
SOME HIGH SCHOOL	15	16.0	74	84.0	0	0	89	100.0
HIGH SCHOOL GRADUATE	61	15.1	354	84.5	2	0.4	417	100.0
SOME TECH SCHOOL	6	25.6	15	74.4	0	0	21	100.0
TECH SCHOOL GRADUATE	6	13.4	36	83.8	1	2.8	43	100.0
SOME COLLEGE	59	23.4	216	76.4	1	0.2	276	100.0
COLLEGE GRADUATE	29	18.5	146	80.9	2	0.6	177	100.0
POST GRADUATE	12	15.6	83	84.4	0	0	95	100.0
UNK/REF	0	0	1	100.0	0	0	1	100.0
TOTAL	191	17.2	991	82.5	6	0.4	1188	100.0

Chronic Drinking

Questions: *During the past month, how many days per week or per month did you drink any alcoholic beverages, on the average? A drink is 1 can or bottle of beer, 1 glass of wine, 1 can or bottle of wine cooler, 1 cocktail, or 1 shot of liquor. On the days when you drank, about how many drinks did you drink on the average?*

Respondents who, through their answers to the two above questions, indicated a total of 60 or more drinks in a given one month period were considered to be at risk from chronic drinking.

Risk from chronic alcohol consumption is nearly the exclusive domain of males among those responding to the 1992 BRFSS survey. Less than one percent of the females surveyed gave answers to alcohol consumption questions that indicated they were at risk from chronic drinking.

Among the 4.3 percent of males who indicated chronic alcohol consumption, most were between the ages of 18 and 34. Nearly 7 percent of males in those age groups were at risk from continual intake of relatively large quantities of alcohol.

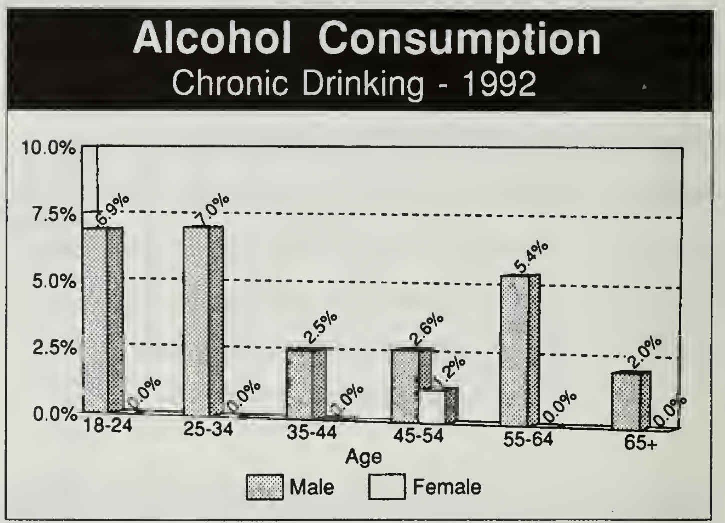

Figure 25

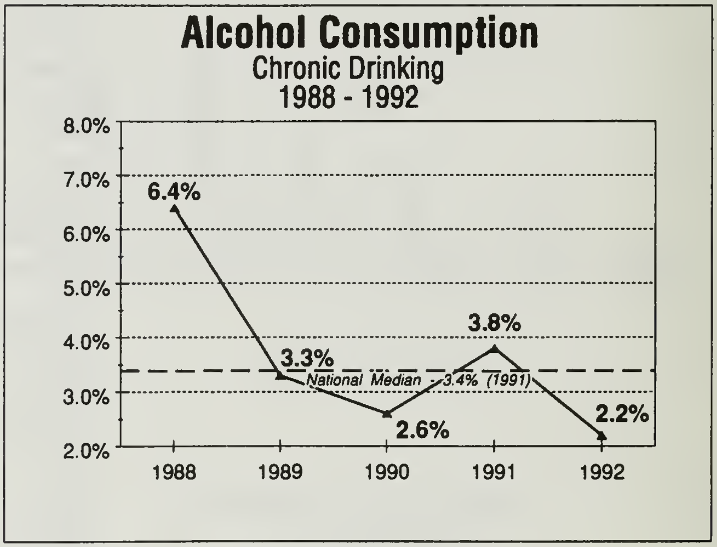

Figure 26

Table 12
Percent of Population at Risk from Chronic Drinking

	YES		NO		UNKNOWN		TOTAL	
	N	%	N	%	N	%	N	%
SEX								
MALE	23	4.3	474	92.9	18	2.8	515	100.0
FEMALE	1	0.2	664	98.6	8	1.2	673	100.0
AGE GROUP								
18-24	4	3.5	112	95.7	2	0.8	118	100.0
25-34	7	3.5	217	95.5	2	1.0	226	100.0
35-44	4	1.3	289	96.4	7	2.4	300	100.0
45-54	3	1.9	162	96.1	4	2.0	169	100.0
55-64	4	2.6	125	93.9	6	3.4	135	100.0
65 +	2	0.9	233	96.5	5	2.6	240	100.0
TOTAL	24	2.2	1138	95.8	26	2.9	1188	100.0
INCOME								
<$10,000	2	1.6	174	97.2	2	1.2	178	100.0
$10-$14,999	2	1.5	161	96.4	4	2.1	167	100.0
$15-$19,999	5	3.5	143	94.4	4	2.1	152	100.0
$20-$24,999	2	2.5	94	95.7	2	1.8	98	100.0
$25-$34,999	8	4.4	183	94.3	3	1.3	194	100.0
$35-$50,000	1	0.3	167	97.5	4	2.2	172	100.0
>$50,000	4	2.9	120	95.3	3	1.8	127	100.0
UNK/REF	0	0	96	95.6	4	4.4	100	100.0
TOTAL	24	2.2	1138	95.8	26	2.0	1188	100.0
EDUCATION								
<9TH GRADE	1	2.0	65	93.0	3	5.0	69	100.0
SOME HIGH SCHOOL	2	2.6	86	96.7	1	0.7	89	100.0
HIGH SCHOOL GRADUATE	10	2.5	397	95.4	10	2.1	417	100.0
SOME TECH SCHOOL	1	3.2	20	96.8	0	0	21	100.0
TECH SCHOOL GRADUATE	1	2.8	41	95.7	1	1.5	43	100.0
SOME COLLEGE	6	2.7	263	95.1	7	2.1	267	100.0
COLLEGE GRADUATE	2	0.7	171	96.9	4	2.4	177	100.0
POST GRADUATE	1	1.2	94	98.8	0	0	95	100.0
UNK/REF	0	0	1	100.0	0	0	1	100.0
TOTAL	24	2.2	1138	95.8	26	2.0	1188	100.0

Blood Cholesterol

Overview

Elevated blood cholesterol is a key risk factor for coronary heart disease. Heart disease is the leading cause of death in Montana, accounting for nearly 28 percent of all deaths in the state. Elevated blood cholesterol and/or cholesterol unawareness are principle risk factors among Montana's citizens for development of atherosclerotic plaque, a precursor to myocardial infarction. High levels of blood cholesterol are a product of genetic predisposition and dietary factors. A diet high in saturated fat, accompanied by other risk factors such as lack of physical activity, smoking, and high blood pressure can hasten the process of atherosclerosis, leading to a coronary event. Reducing blood cholesterol can reduce the likelihood of developing or dying from coronary heart disease.

Awareness: Cholesterol Checked

Questions: *Have you ever had your blood cholesterol checked? About how long has it been since you last had your blood cholesterol checked?*

Since 1988, blood cholesterol awareness has improved substantially among respondents to the BRFSS survey. In 1992, more than 66 percent of those responding to the survey indicated they had their cholesterol checked at one time or another; up from just under 49 percent in 1988. Moreover, in 1992, 63.5 percent reported having their cholesterol checked within the last five years. Thus, Montanans seem to be on par with the rest of the U.S. in their awareness of the importance of low blood cholesterol

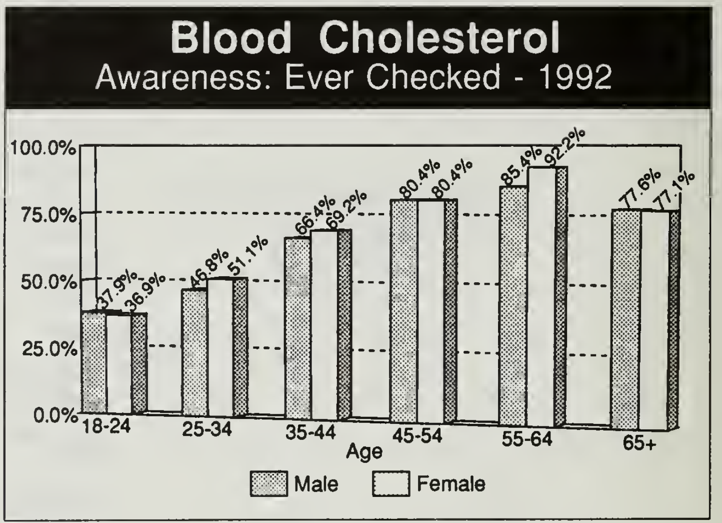

Figure 27

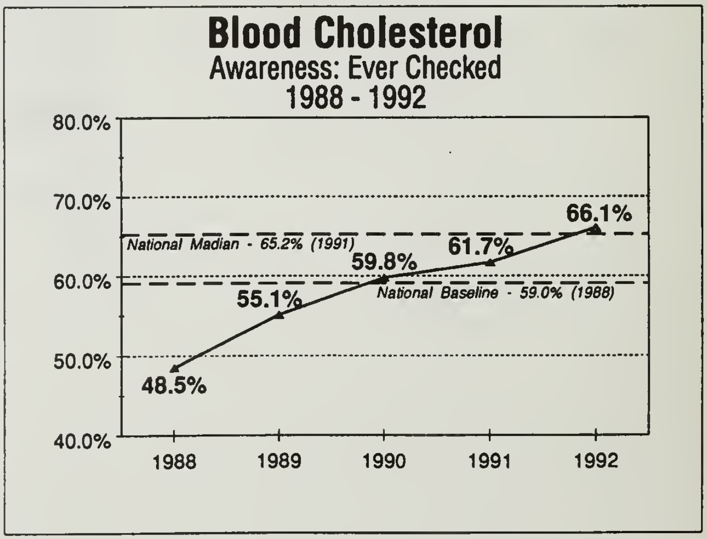

Figure 28

levels. The national median in 1991 for "ever checked" was 65.2 percent and 63.5 percent for "checked in the last five years," indicating a greater use of cholesterol screening services by the general population to prevent development of coronary heart disease.

Lower incidence of cholesterol screenings among those with less education and lower incomes is an indication of the need for more extensive public screening programs. Public screening can serve as an effective adjunct to cholesterol screening in the health care system. However, public screening programs should not be utilized as an alternative source of medical care, particularly among those with hypercholesteremia.

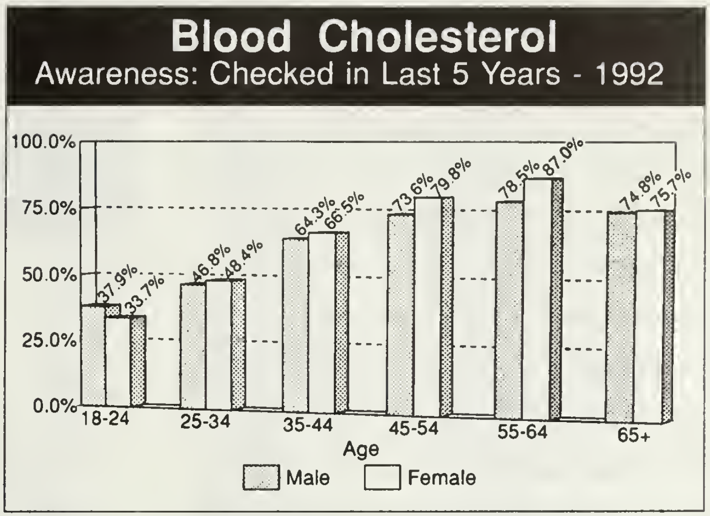

Figure 29

HEALTHY PEOPLE 2000 **15.14** *Increase to at least 75% the proportion of adults who have had their blood cholesterol checked within the preceding 5 years.*

U.S. Baseline: 59% in 1988

Year	*1988*	*1989*	*1990*	*1991*	*1992*
Montana	N/A	N/N	57.6%	58.6%	63.5%
U.S. Median				*63.7%*	

Figure 30

Table 13
Cholesterol Checked within Past 5 Years - 1992

	YES		*NO*		*UNKNOWN*		*TOTAL*	
	N	*%*	*N*	*%*	*N*	*%*	*N*	*%*
SEX								
MALE	324	61.9	14	2.3	177	35.8	515	100.0
FEMALE	447	65.0	15	2.1	211	32.9	673	100.0
AGE GROUP								
18-24	43	35.9	2	1.6	73	62.6	118	100.0
25-34	111	47.6	4	1.4	111	51.0	226	100.0
35-44	193	65.4	8	2.4	99	32.2	300	100.0
45-54	130	76.6	7	3.8	32	19.6	169	100.0
55-64	112	82.8	5	3.3	18	13.9	135	100.0
65 +	182	75.3	3	1.4	55	23.2	240	100.0
TOTAL	771	63.5	29	2.2	388	34.3	1188	100.0
INCOME								
<$10,000	93	50.9	5	2.6	80	46.5	178	100.0
$10-$14,999	89	52.1	8	3.3	70	44.5	167	100.0
$15-$19,999	101	61.3	2	1.1	49	37.6	152	100.0
$20-$24,999	64	64.3	2	1.4	32	34.2	98	100.0
$25-$34,999	132	65.9	4	2.7	58	31.4	194	100.0
$35-$50,000	133	77.4	2	1.1	37	21.6	172	100.0
>$50,000	97	73.9	5	4.1	25	22.0	127	100.0
UNK/REF	62	58.8	1	0.5	37	40.7	100	100.0
TOTAL	771	63.5	29	2.2	388	34.3	1188	100.0
EDUCATION								
<9TH GRADE	41	59.9	0	0	28	40.1	69	100.0
SOME HIGH SCHOOL	58	62.8	1	0.6	30	36.6	89	100.0
HIGH SCHOOL GRADUATE	241	56.7	7	1.7	169	41.7	417	100.0
SOME TECH SCHOOL	13	58.4	0	0	8	41.6	21	100.0
TECH SCHOOL GRADUATE	34	81.7	1	2.3	8	15.9	43	100.0
SOME COLLEGE	172	61.9	11	3.1	93	35.0	276	100.0
COLLEGE GRADUATE	134	74.4	7	4.2	36	21.4	177	100.0
POST GRADUATE	77	78.4	2	1.9	16	19.7	95	100.0
UNK/REF	1	100.0	1	100.0				
TOTAL	771	63.5	29	2.2	388	34.3	1188	100.0

Ever Told Cholesterol Was High

Question: *Have you ever been told by a doctor or other health professional that your blood cholesterol is high?*

Among Montanans, only about 17 percent of respondents in 1991 and again in 1992 indicated that they had been told by health care professionals that their blood cholesterol level was high. That is down 2 percentage points from 19 percent in 1989. In 1989, only about 55 percent of BRFSS respondents said they had ever had their cholesterol checked. In the 55 and over age group, females reported high cholesterol levels at a ratio of nearly 2 to 1 over males. That is interesting since the awareness levels of males and females in the 55 and over group are similar. It should be noted that in the 18-24 year age group, males had a slightly higher level of awareness than females, yet females reported high cholesterol levels at a ratio of 5 to 1 over males.

While the propensity for heightened blood cholesterol levels can be hereditary, diet modification, exercise, and drug therapy can reduce and/or control levels for many people. Consequently, awareness of the importance of low cholesterol levels can lead to decreased risk. However, awareness is more than knowing a cholesterol number. While progress has been made through various education programs,

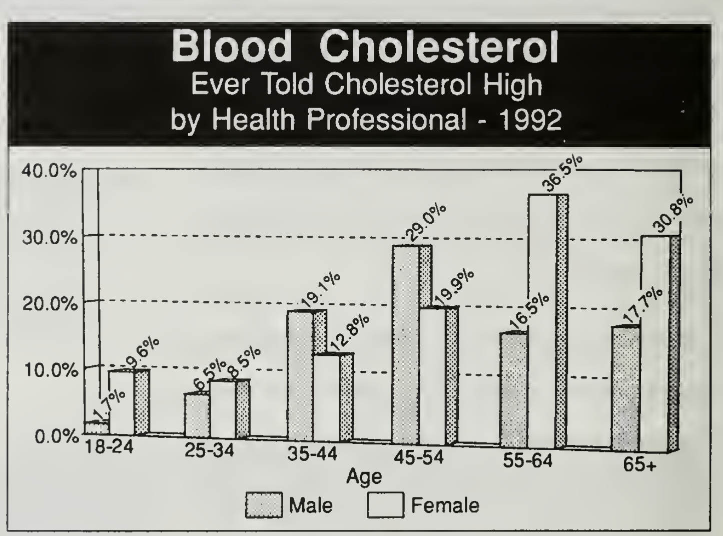

Figure 31

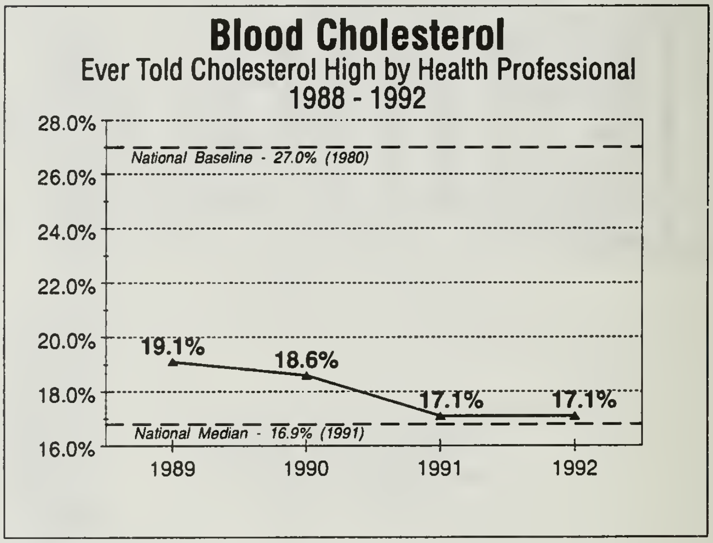

Figure 32

BRFSS statistics indicate that approximately 36 percent of Montanans have not had cholesterol screenings in the last five years. The Healthy People 2000 goal is to increase to at least 75 percent the proportion of adults who have had their blood cholesterol checked within the preceding five years.

As mentioned above, public screening can be useful in detecting high blood cholesterol levels among particular medically under-served populations.

Table 14
Ever Told High Cholesterol by Health Professional

	YES		*NO*		*UNKNOWN*		*TOTAL*	
	N	*%*	*N*	*%*	*N*	*%*	*N*	*%*
SEX								
MALE	82	15.1	256	49.3	177	35.6	515	100.0
FEMALE	126	19.0	337	48.1	210	32.9	673	100.0
AGE GROUP								
18-24	7	5.6	37	31.1	74	63.3	118	100.0
25-34	18	7.5	96	41.0	112	51.5	226	100.0
35-44	44	16.0	156	51.6	100	32.4	300	100.0
45-54	41	24.5	96	55.9	32	19.6	169	100.0
55-64	36	26.7	83	61.4	16	11.9	135	100.0
65 +	62	25.2	125	52.1	53	22.7	240	100.0
TOTAL	208	17.1	593	48.7	387	34.2	1188	100.0
INCOME								
<$10,000	27	13.8	71	39.7	80	46.5	178	100.0
$10-$14,999	24	14.2	75	42.6	68	43.2	167	100.0
$15-$19,999	29	18.6	74	43.8	49	37.6	152	100.0
$20-$24,999	20	21.6	45	43.7	33	34.8	98	100.0
$25-$34,999	27	12.8	108	55.3	59	32.0	194	100.0
$35-$50,000	39	22.7	96	55.7	37	21.6	172	100.0
>$50,000	21	16.9	81	61.1	25	22.0	127	100.0
UNK/REF	21	18.2	43	41.7	36	40.1	100	100.0
TOTAL	208	17.1	593	48.7	387	34.2	1188	100.0
EDUCATION								
<9TH GRADE	16	21.5	27	41.5	26	37.0	69	100.0
SOME HIGH SCHOOL	16	18.1	43	45.3	30	36.6	89	100.0
HIGH SCHOOL GRADUATE	67	14.8	182	43.6	168	41.5	417	100.0
SOME TECH SCHOOL	6	27.2	7	31.2	8	41.6	21	100.0
TECH SCHOOL GRADUATE	10	24.0	25	60.1	8	15.9	43	100.0
SOME COLLEGE	41	15.7	141	49.1	94	35.2	276	100.0
COLLEGE GRADUATE	36	20.7	105	57.9	36	21.4	177	100.0
POST GRADUATE	15	15.3	63	63.8	17	20.9	95	100.0
UNK/REF	1	100.0	1	100.0				
TOTAL	208	17.1	593	48.7	387	34.2	1188	100.0

Diabetes

Overview

Approximately 7 million Americans have been diagnosed as having diabetes. Possibly another 5 million are affected, but are unaware of the condition. According to the U.S. Department of Health and Human Services, Centers of Disease Control and Prevention diabetes affects over 42,000 individuals in Montana. Approximately half have been diagnosed and are receiving treatment. Diabetes is a metabolic disorder which changes the way the body breaks down and uses starches and sugars. Untreated, it can lead to heart and kidney disease, blindness, and problems in pregnancy or childbirth. It can also reduce the body's ability to fight infection and lead to nerve and blood vessel damage which can, in turn, lead to the need for amputation. While there seems to be a hereditary link to the disease, there also seems to be a relationship between diet and the onset of diabetes.

In any event, awareness and early diagnosis of the disease are important because its damaging effects can be greatly diminished with proper health care.

Question: *Have you ever been told by a doctor that you have diabetes?* In 1992, 4.4 percent of the respondents to the BRFSS survey said they had been told by a doctor that they had diabetes. The 4.4 percent for 1992 and the 4.9 percent response in 1991 represent a substantial increase in the proportion of respondents indicating they have diabetes.

Diabetes incidence increases with advancing age. No respondent in the 18- to 24-year-old category answered that diabetes had been diagnosed. Nearly 10 percent of

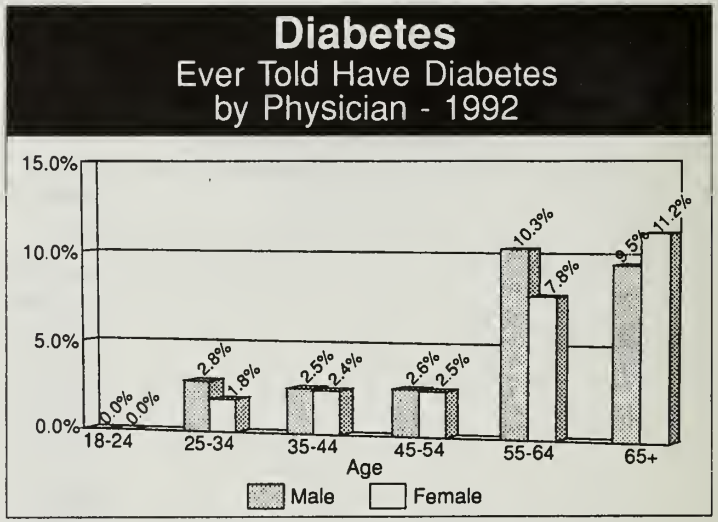

Figure 33

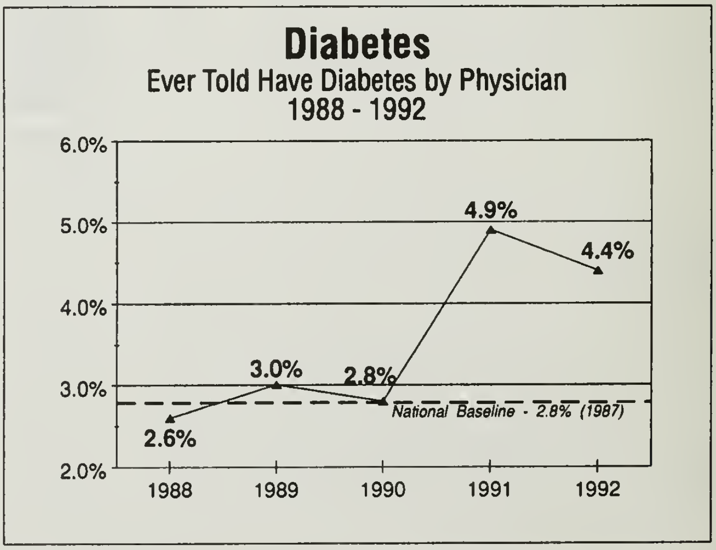

Figure 34

those 55 and older reported having been told they had the disease.

The Healthy People 2000 objective is to reduce the prevalence of diabetes to 2.5 percent. As indicated by the 1992 BRFSS survey, diabetes prevalence in Montana is nearly 2 percentage points above that objective, or nearly 80 percent greater.

Table 15
Diabetes: Ever Told You Have Diabetes by a Physician

	YES		*NO*		*UNK/REF*		*TOTAL*	
	N	*%*	*N*	*%*	*N*	*%*	*N*	*%*
SEX								
MALE	25	4.3	490	95.7	0	0	515	100.0
FEMALE	30	4.4	642	95.5	1	0.1	673	100.0
AGE GROUP								
18-24	0	0	118	100.0	0	0	118	100.0
25-34	6	2.3	220	97.7	0	0	226	100.0
35-44	7	2.4	293	97.6	0	0	300	100.0
45-54	5	2.6	164	97.4	0	0	169	100.0
55-64	14	9.1	121	90.9	0	0	135	100.0
65 +	23	10.5	216	89.3	1	0.3	240	100.0
TOTAL	55	4.4	1132	95.6	1	0.0	1188	100.0
INCOME								
<$10,000	15	7.2	163	92.8	0	0	178	100.0
$10-$14,999	4	2.1	162	97.5	1	0.4	167	100.0
$15-$19,999	10	6.6	142	93.4	0	0	152	100.0
$20-$24,999	3	3.5	95	96.5	0	0	98	100.0
$25-$34,999	6	2.4	188	97.6	0	0	194	100.0
$35-$50,000	4	2.0	168	98.0	0	0	172	100.0
>$50,000	6	5.3	121	94.7	0	0	127	100.0
UNK/REF	7	8.5	93	91.5	0	0	100	100.0
TOTAL	55	4.4	1132	95.6	1	0.0	1188	100.0
EDUCATION								
<9TH GRADE	9	11.2	60	88.8	0	0	69	100.0
SOME HIGH SCHOOL	13	14.6	76	85.4	0	0	89	100.0
HIGH SCHOOL GRADUATE	16	3.3	401	96.7	0	0	417	100.0
SOME TECH SCHOOL	0	0	21	100.0	0	0	21	100.0
TECH SCHOOL GRADUATE	0	0	42	98.5	1	1.5	43	100.0
SOME COLLEGE	8	2.4	268	97.6	0	0	276	100.0
COLLEGE GRADUATE	6	4.5	171	95.5	0	0	177	100.0
POST GRADUATE	3	2.5	92	97.5	0	0	95	100.0
UNK/REF	1	100.0	0	0	0	0	1	100.0
TOTAL	55	4.4	1132	95.6	1	0.0	1188	100.0

HEALTHY PEOPLE 2000

17.11

Reduce diabetes to an incidence of no more than 2.5 per 1,000 people and a prevalence of no more than 25 per 1,000 people.

U.S. Baseline: 2.8% in 1987

Year	*1988*	*1989*	*1990*	*1991*	*1992*
Montana	2.6%	3.0%	2.8%	4.9%	4.4%
U.S. Median				*N/A*	

Figure 35

Health Insurance Coverage

Overview

As the national debate concerning health care issues unfolds, one out of every six Montanans continues to be at risk from not having the protection of a health care plan. For many of those who are unprotected, the lack of insurance actually promotes increased health care costs. The advantages of wellness care (i.e., regular checkups) are not as available to the uninsured. Consequently, early diagnosis of disease is less likely. Illnesses that might have been relatively easy and inexpensive to treat are allowed to escalate to emergency status before medical attention is sought. All too often, a disease that could have been quickly cured becomes life threatening, producing long-term health and financial consequences. Correspondingly, access to health care and medical insurance involves many important health, as well as financial issues. Finding solutions will require a tremendous amount of collaborative effort, requiring the involvement of interests on all sides of the health care debate.

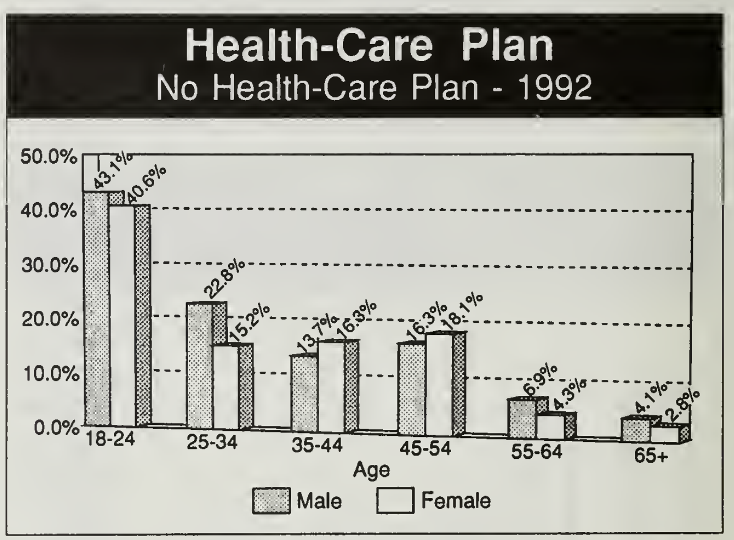

Figure 36

Question: *Do you have any kind of health-care plan?*

Just over 16 percent of the respondents of the 1992 BRFSS survey indicated that they had no health-care plan in place, which is comparable to the national average. Predictably, there is a correlation between no health-care plan and annual income. Nearly one-third (32.8 percent) of

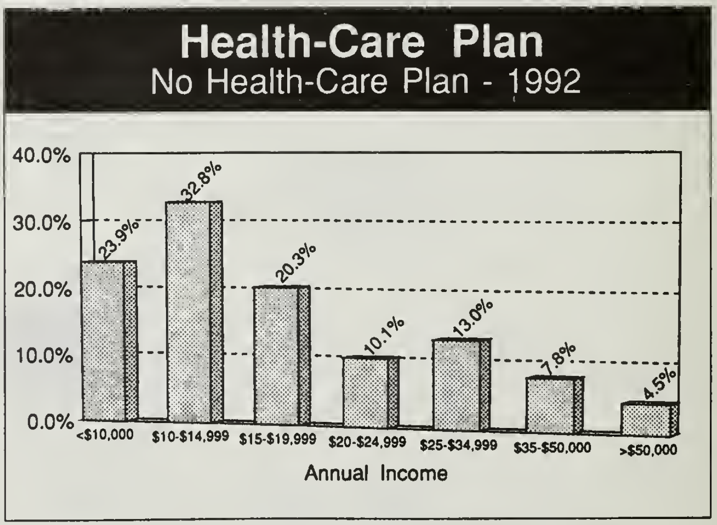

Figure 37

those with annual incomes between $10,000 and $14,999 were without a health-care plan. Approximately one-fourth with incomes less than $20,000 were without coverage. By contrast, only 4.5 percent of those with annual incomes in excess of $50,000 said they were unprotected.

Only slightly fewer females than males reported having no health-care plans. Correlations with age and education probably mirror the relationship between income and percent of no coverage. In 1989, one-third of the counties in Montana had median household incomes under $20,000; for some the median was as low as $16,000.

Table 16
No Health-Care Plan

	YES		*NO*		*UNKNOWN*		*TOTAL*	
	N	*%*	*N*	*%*	*N*	*%*	*N*	*%*
SEX								
MALE	89	17.4	424	82.1	2	0.5	515	100.0
FEMALE	95	15.0	575	84.2	3	0.9	673	100.0
AGE GROUP								
18-24	48	41.9	68	55.6	2	2.5	118	100.0
25-34	43	18.9	183	81.1	0	0	226	100.0
35-44	48	15.0	251	84.6	1	0.4	300	100.0
45-54	29	17.2	140	82.8	0	0	169	100.0
55-64	8	5.6	127	94.4	0	0	135	100.0
65 +	8	3.4	230	95.1	2	1.6	240	100.0
TOTAL	184	16.2	999	83.1	5	0.7	1188	100.0
INCOME								
<$10,000	39	23.9	138	74.9	1	1.2	178	100.0
$10-$14,999	52	32.8	115	67.2	0	0	167	100.0
$15-$19,999	31	20.3	121	79.7	0	0	152	100.0
$20-$24,999	10	10.1	88	89.9	0	0	98	100.0
$25-$34,999	22	13.0	172	87.0	0	0	194	100.0
$35-$50,000	12	7.8	160	92.2	0	0	172	100.0
>$50,000	4	4.5	123	95.5	0	0	127	100.0
UNK/REF	14	14.8	82	78.6	4	6.6	100	100.0
TOTAL	184	16.2	999	83.1	5	0.7	1188	100.0
EDUCATION								
<9TH GRADE	6	7.6	62	91.6	1	0.8	69	100.0
SOME HIGH SCHOOL	16	20.6	71	74.5	2	4.9	89	100.0
HIGH SCHOOL GRADUATE	86	21.8	330	77.9	1	0.3	417	100.0
SOME TECH SCHOOL	5	25.5	16	74.5	0	0	21	100.0
TECH SCHOOL GRADUATE	7	20.7	36	79.3	0	0	43	100.0
SOME COLLEGE	36	12.9	239	86.4	1	0.7	276	100.0
COLLEGE GRADUATE	20	10.8	157	89.2	0	0	177	100.0
POST GRADUATE	8	7.1	87	92.9	0	0	95	100.0
UNK/REF	0	0	1	100.0	0	0	1	100.0
TOTAL	184	16.2	999	83.1	5	0.7	1188	100.0

Mammogram & Breast Exam

Overview

Mammography, an x-ray study of the breast, is an effective screening method to detect cancer, providing early detection and promoting early treatment of the disease. Breast cancer is one of the leading causes of cancer death among Montana women. About one out of every eight women in the state is projected to develop breast cancer. In 1991, 32 percent of malignant cancer cases among Montana women were breast cancer (Montana Department to Health and Environmental Sciences, Vital Records and Statistics Bureau, Feburary 1993). Females 65 years of age and older are more at risk of developing breast cancer, but are less likely to receive screening services than females in younger age groups.. Females with incomes less than the poverty level are also much less likely to receive screening services than those with higher incomes.

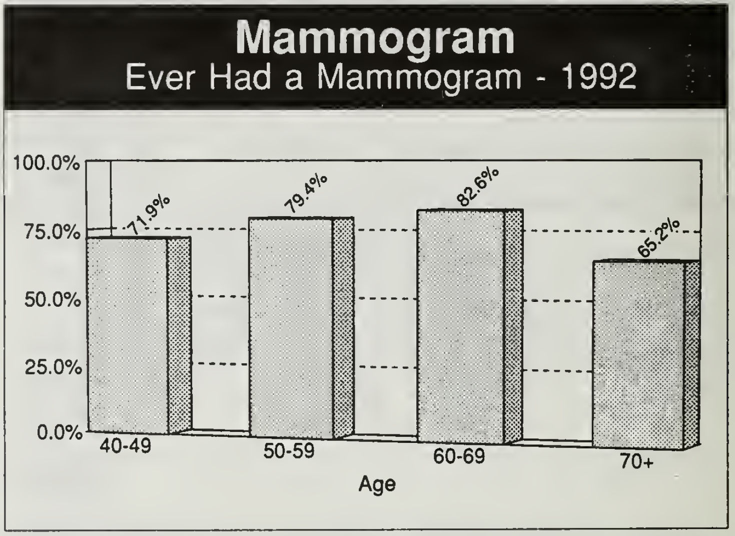

Figure 38

Although the cause of breast cancer has not been determined, some of the risk factors are:

- ☐ Advancing age over 40 years
- ☐ Family history of breast cancer or benign breast disease
- ☐ Exposure to high doses of radiation
- ☐ Menarche beginning at an early age
- ☐ Menopause starting at a late age
- ☐ Birth of first child at a late age

Ever Had a Mammogram

Questions: *Have you ever had a mammogram? Have you ever had a clinical breast exam?*

Based on the statistical inference "Have you ever had a mammogram and breast exam?" more than 71 percent of Montana

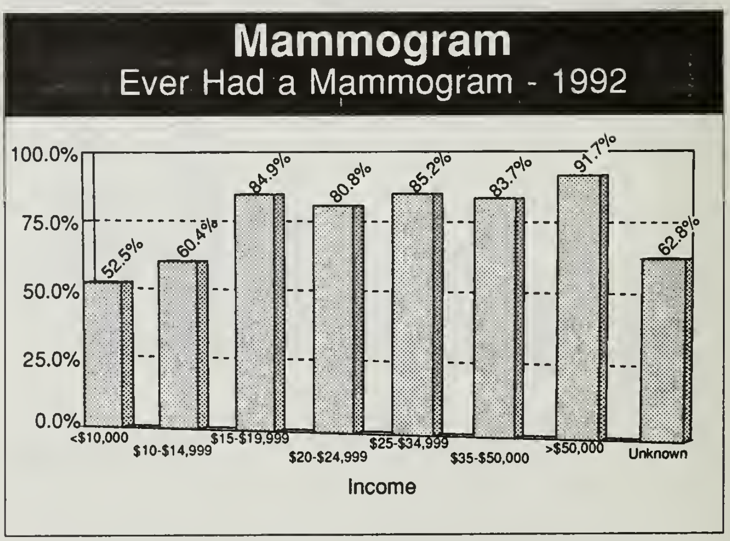

Figure 39

women 40 years old or older indicated that they had a mammogram at some time in their lives. Women between the ages of 50 and 64 were more likely to have had a mammogram (83 percent) than those between the ages of 40 and 49 (72 percent).

Interestingly, more than 85 percent of women who have never been married reported having had a mammogram -- higher than any other marital status category.

The following points constitute one of the currently accepted guidelines for screening by mammography as provided by the American Cancer Society, National Cancer Institute and the Centers for Disease Control and Prevention:

- ☐ *An initial mammogram screening by age 40*
- ☐ *A mammogram screening every year or two between the ages of 40 and 49*
- ☐ *An annual mammogram screening beginning at age 50*

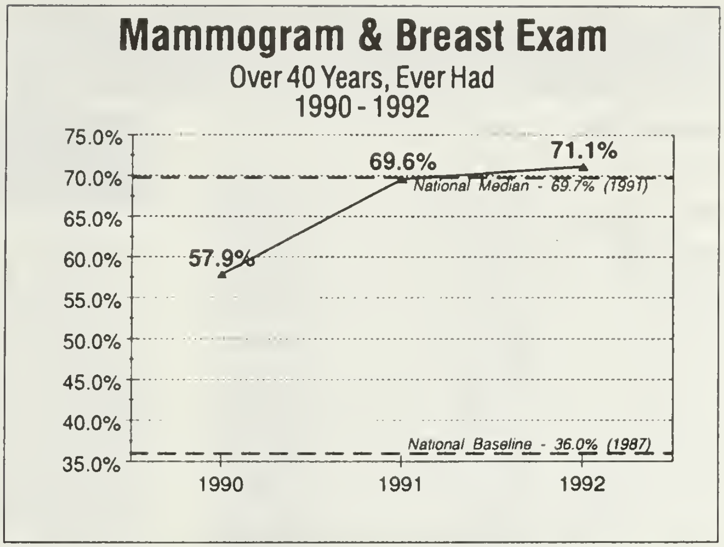

Figure 40

Table 17
Ever Had a Mammogram?
1992 (Among Women 40 and Older)

	YES		NO		TOTAL	
	N	%	N	%	N	%
AGE GROUP						
40-49	93	71.9	35	28.1	128	100.0
50-59	50	79.4	13	20.6	63	100.0
60-69	67	82.6	16	17.4	83	100.0
70 +	72	65.2	40	34.8	112	100.0
TOTAL	282	74.3	104	25.7	386	100.0
INCOME						
<$10,000	38	52.5	34	47.5	72	100.0
$10-$14,999	36	60.4	18	39.6	54	100.0
$15-$19,999	39	84.9	7	15.1	46	100.0
$20-$24,999	24	80.8	5	19.2	29	100.0
$25-$34,999	42	85.2	7	14.8	49	100.0
$35-$50,000	34	83.7	7	16.3	41	100.0
>$50,000	35	91.7	5	8.3	40	100.0
UNK/REF	34	62.8	21	37.2	55	100.0
TOTAL	282	74.3	104	25.7	386	100.0
EDUCATION						
<9TH GRADE	15	43.1	17	56.9	32	100.0
SOME HIGH SCHOOL	29	78.4	11	21.6	40	100.0
HIGH SCHOOL GRADUATE	97	70.7	45	29.3	142	100.0
SOME TECH SCHOOL	6	73.9	2	26.1	8	100.0
TECH SCHOOL GRADUATE	17	82.6	4	17.4	21	100.0
SOME COLLEGE	49	75.6	15	24.4	64	100.0
COLLEGE GRADUATE	45	87.6	7	12.4	52	100.0
POST GRADUATE	24	92.3	2	7.7	26	100.0
UNK/REF	0	0	1	100.0	1	100.0
TOTAL	282	74.3	104	25.7	386	100.0
MARITAL STATUS						
MARRIED	158	76.4	52	23.6	206	100.0
DIVORCED	38	74.2	11	25.8	49	100.0
WIDOWED	74	70.0	34	30.0	108	100.0
SEPARTED	2	20.6	4	79.4	6	100.0
NEVER MARRIED	10	85.2	2	14.8	12	100.0
UNMARRIED COUPLE	2	100.0	0	0	2	100.0
UNK/REF	0	0	1	100.0	1	100.0
TOTAL	282	74.3	104	25.7	386	100.0

Mammogram in Last Two Years

Questions: *Have you ever had a mammogram? How long has it been since you had your last mammogram? Have you ever had a clinical breast exam? How long has it been since your last breast exam?*

Based on the statistical inference "Had a mammogram and breast exam within the past two years," among women age 50 and older, nearly 63 percent indicated that they had had a mammogram and clinical breast exam within the last two years.

The Healthy People 2000 objective is to increase to at least 80 percent the proportion of women aged 40 and older who have ever received a clinical breast examination and mammogram. In Montana, 72 percent of women in the target age group reported having received such screens.

Income level, education, and age seem to be factors involved in failure to receive regular mammogram screenings. The 65 and older age group continues to report a lower use of mammogram screening, as do those with lower income and education levels.

The rate of mammogram use among females 50 years and older has increased steadily the past few years. Nonetheless, still more can be done to reach those groups that are not receiving screenings frequently enough.

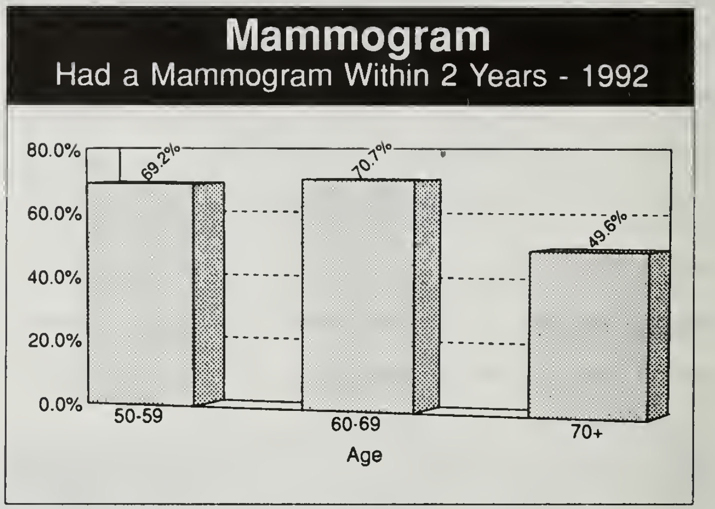

Figure 41

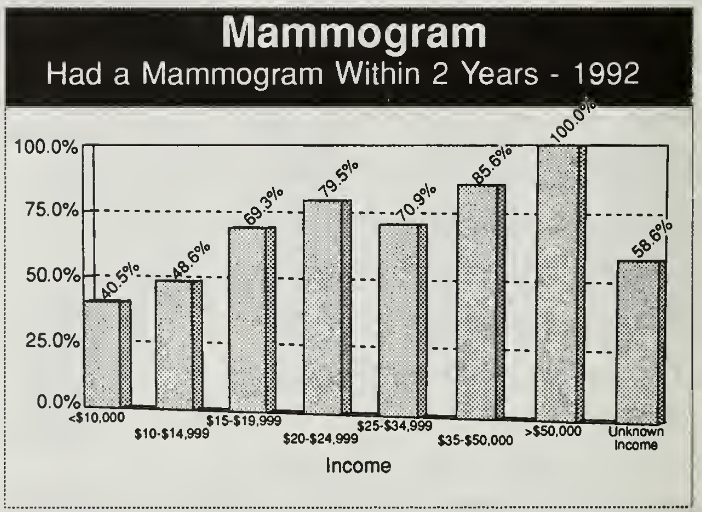

Figure 42

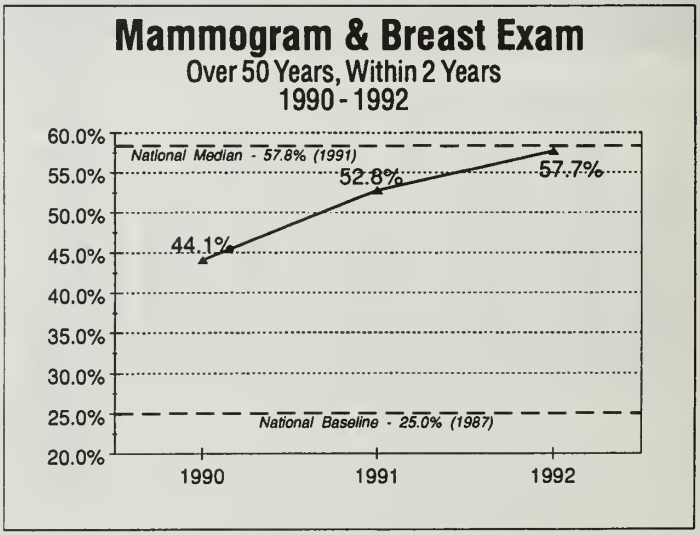

Figure 43

Table 18
Had a Mammorgam within Two Years
1992 (Among Women 50 and Older)

	YES		NO		UNKNOWN		TOTAL	
	N	%	N	%	N	%	N	%
AGE GROUP								
50-59	44	69.2	6	10.3	13	20.6	63	100.0
60-69	56	70.7	11	11.9	16	17.4	83	100.0
70 +	57	49.6	15	15.6	40	34.8	112	100.0
TOTAL	157	62.7	32	12.8	69	24.5	258	100.0
INCOME								
<$10,000	25	40.5	7	10.7	32	48.9	64	100.0
$10-$14,999	23	48.6	7	18.7	12	32.6	42	100.0
$15-$19,999	24	69.3	5	15.7	5	15.0	34	100.0
$20-$24,999	14	79.5	2	9.2	2	11.3	18	100.0
$25-$34,999	22	70.9	7	24.8	1	4.3	30	100.0
$35-$50,000	14	85.6	1	7.2	1	7.2	16	100.0
>$50,000	11	100.0	11	100.0				
UNK/REF	24	58.6	3	7.1	16	34.3	43	100.0
TOTAL	157	62.7	32	12.8	69	24.5	258	100.0
EDUCATION								
<9TH GRADE	10	30.3	3	11.1	15	58.6	28	100.0
SOME HIGH SCHOOL	21	66.1	4	10.3	11	23.6	36	100.0
HIGH SCHOOL GRADUATE	56	58.5	15	14.3	29	27.2	100	100.0
SOME TECH SCHOOL	2	39.0	1	22.0	2	39.0	5	100.0
TECH SCHOOL GRADUATE	9	51.9	3	29.0	3	19.1	15	100.0
SOME COLLEGE	23	71.3	5	16.3	5	12.4	33	100.0
COLLEGE GRADUATE	26	88.3	1	2.3	3	9.4	30	100.0
POST GRADUATE	10	100.0	0	0	0	0	10	100.0
UNK/REF	0	0	0	0	1	100.0	1	100.0
TOTAL	157	62.7	32	12.8	69	24.5	258	100.0
MARITAL STATUS								
MARRIED	80	69.2	12	11.7	23	19.2	115	100.0
DIVORCED	14	54.9	4	16.4	6	28.7	24	100.0
WIDOWED	58	55.7	14	14.5	33	29.7	105	100.0
SEPARATED	0	0	1	12.9	4	87.1	5	100.0
NEVER MARRIED	5	69.5	1	10.5	2	20.0	8	100.0
UNK/REF	0	0	0	0	1	100.0	1	100.0
TOTAL	157	62.7	32	12.8	69	24.5	258	100.0
EMPLOYMENT								
EMPLOYED	26	60.8	8	17.3	12	22.0	46	100.0
SELF EMPLOYED	16	65.9	2	10.9	5	23.2	23	100.0
OUT OF WORK	2	100.0	0	0	0	0	2	100.0
HOMEMAKER	22	77.7	0	0	7	22.3	29	100.0
RETIRED	91	59.3	22	15.6	42	25.1	155	100.0
TOTAL	157	62.7	32	12.8	69	24.5	258	100.0

HEALTHY PEOPLE 2000

16.11 *Increase to at least 80% the proportion of women aged 40 and older who have ever received a clinical breast examination and a mammogram, and to at least 60% those aged 50 and older who have received them within the preceding 1 to 2 years.*

U.S. Baselines: 36% & 25% in 1987

Year	*1988*	*1989*	*1990*	*1991*	*1992*
Montana 40+ / 50+	N/A / N/A	N/A / N/A	57.9% / 44.1%	69.6% / 52.8%	71.1% / 57.7%
U.S. Median				69.7% / 57.8%	

Figure 44

Pap Test

Overview

Recent studies have shown that Pap testing is an effective tool for early detection of cancer of the uterine cervix, reducing mortality from the disease by as much as 75 percent. The decline in the number of deaths nationwide from cervical cancer from 5.8 women per 100,000 in 1970 to 2.8 in 1988 is thought by many experts to be due primarily to the use of Pap testing. In Montana, cervical cancer accounted for 13 deaths in 1991, or approximately 3.2 females per 100,000.

Questions: *Have you ever had a Pap smear? How long has it been since you had your last Pap smear?*

In 1992, about 76 percent of all adult female Montanans responding to the BRFSS survey had a Pap test within the previous two years; a reduction in percentage from the 1991 survey when 79 percent reported having had the test within two years. Younger women (18 to 44) were more apt to have had a Pap test than their older counterparts. Nearly all (99 percent) adult women in Montana have heard of Pap testing and 95 percent have had a Pap test at some time in their lives.

The Healthy People 2000 objective is to increase to at least 95 percent the proportion of women who have ever received a Pap test and to at least 85 percent those who received a Pap test within the preceeding one to two years.

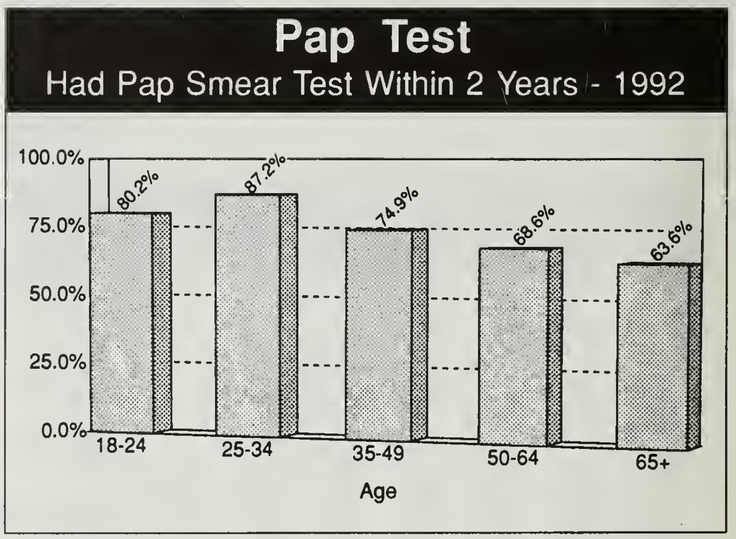

Figure 45

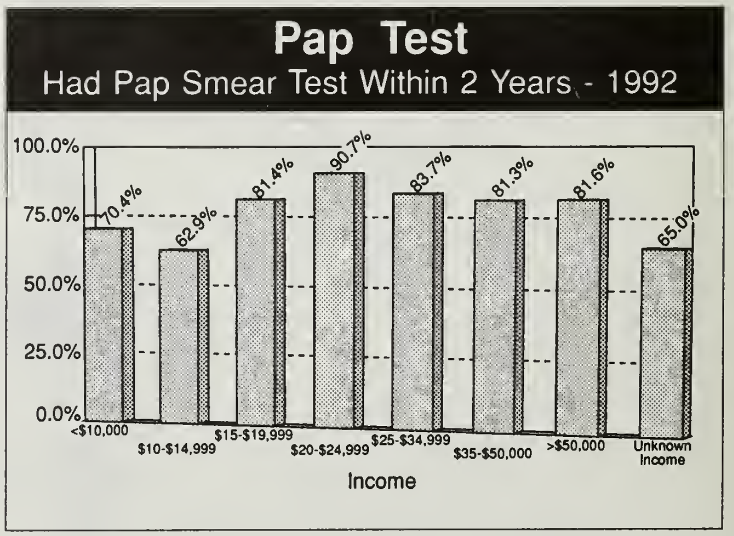

Figure 46

The American Cancer Society, National Cancer Institute and the Centers for Disease Control and Prevention currently recommend the following Pap Test guidelines:

- ☐ *A woman should have a Pap test at the onset of sexual activity*
- ☐ *An annual Pap test is recommended; however, it is not very cost-effective for the general populace*
- ☐ *A good alternative is if three successive annual Pap tests are negative, the test can be performed less frequently, at the discretion of a physician*

HEALTHY PEOPLE 2000

16.12 *Increase to at least 95% the proportion of women aged 18 and older with uterine cervix who have ever received a Pap test, and to at least 85% those who have received a Pap test within the preceding 1 to 3 years.*

U.S. Baseline: 75%* in 1987

**Baseline for having Pap test within 3 years.*

Year	*1988*	*1989*	*1990*	*1991*	*1992*
Ever Received In Last 1 to 3 yrs.	N/A	N/A	N/A	94.9% 78.8%	94.0% 76.4%
U.S. Median				*79.7%*	

Figure 47

Table 19
Had Pap Test Within Past Two Years - 1992

	YES		*NO*		*UNKNOWN*		*TOTAL*	
	N	*%*	*N*	*%*	*N*	*%*	*N*	*%*
AGE GROUP								
18-24	53	80.2	12	19.8	0	0	65	100.0
25-34	109	87.2	11	9.1	5	3.7	125	100.0
35-49	140	74.9	27	14.7	18	10.4	185	100.0
50-64	36	68.6	11	19.5	7	11.9	54	100.0
65 +	57	63.6	22	22.5	15	14.0	94	100.0
TOTAL	395	76.4	83	15.8	45	7.8	523	100.0
INCOME								
<$10,000	72	70.4	21	22.8	8	6.8	101	100.0
$10-$14,999	47	62.9	20	23.1	11	14.0	78	100.0
$15-$19,999	52	81.4	7	7.1	7	11.5	66	100.0
$20-$24,999	39	90.7	2	3.6	3	5.6	44	100.0
$25-$34,999	58	83.7	9	11.5	3	4.8	70	100.0
$35-$50,000	54	81.3	8	14.2	4	4.5	66	100.0
>$50,000	38	81.6	5	18.4	0	0	43	100.0
UNK/REF	35	65.0	11	21.3	9	13.7	55	100.0
TOTAL	395	76.4	83	15.8	45	7.8	523	100.0
EDUCATION								
<9TH GRADE	10	47.8	4	18.5	6	33.7	20	100.0
SOME HIGH SCHOOL	21	59.8	10	25.2	6	15.0	37	100.0
HIGH SCHOOL GRADUATE	137	75.2	32	16.7	17	8.0	186	100.0
SOME TECH SCHOOL	13	90.2	1	9.8	0	0	14	100.0
TECH SCHOOL GRADUATE	15	66.4	6	28.7	1	4.9	22	100.0
SOME COLLEGE	102	79.0	19	14.8	9	6.2	130	100.0
COLLEGE GRADUATE	66	84.4	9	12.4	4	3.2	79	100.0
POST GRADUATE	31	90.5	2	3.8	2	5.8	35	100.0
TOTAL	395	76.4	83	15.8	45	7.8	523	100.0
MARITAL STATUS								
MARRIED	239	81.2	34	12.0	22	6.8	295	100.0
DIVORCED	55	74.9	11	16.1	6	9.1	72	100.0
WIDOWED	36	61.6	15	22.5	11	15.9	62	100.0
SEPARATED	9	53.5	3	16.2	2	30.3	14	100.0
NEVER MARRIED	47	63.7	19	31.8	4	4.5	70	100.0
UNMARRIED COUPLE	9	93.9	1	6.1	0	0	10	100.0
TOTAL	395	76.4	83	15.8	45	7.8	523	100.0
EMPLOYMENT								
EMPLOYED	205	79.9	40	14.0	17	6.1	262	100.0
SELF EMPLOYED	42	74.3	7	13.9	8	11.8	57	100.0
OUT OF WORK <1 YEAR	7	79.0	0	0	1	21.0	8	100.0
OUT OF WORK >1 YEAR	13	97.0	0	0	1	3.0	14	100.0
HOMEMAKER	56	78.6	7	11.8	6	9.6	69	100.0
STUDENT	18	60.3	8	39.7	0	0	26	100.0
RETIRED	54	63.7	21	24.8	12	11.5	87	100.0
TOTAL	395	76.4	83	15.8	45	7.8	523	100.0

300 copies of this public document were published at an estimated cost of $3.00 per copy, for a total cost of $900.00 which includes $900.00 for printing and $.00 for distribution.